



THE ASSAM GAZETTE

অসাধাৰণ

EXTRAORDINARY

প্ৰাপ্ত কৰ্তৃত্ব দ্বাৰা প্ৰকাশিত

PUBLISHED BY THE AUTHORITY

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No. 330 Dispur, Saturday, 7th May, 2022, 17th Vaisakha, 1944 (S. E.)

GOVERNMENT OF ASSAM

ORDERS BY THE GOVERNOR

DEPARTMENT OF HOUSING & URBAN AFFAIRS

NOTIFICATION

The 29th March, 2022

No. UDD(T) 158/2022/7.- In exercise of the powers conferred by the section 9 (nine) of the Assam Town & Country Planning Act.1959 (Assam Act II of 1960) read with Sub-section I of section 10 (Ten) of Assam Town & Country Planning Act (As amended), the Governor of Assam is pleased to published the following notice regarding the publication of draft master plan for Doomdoooma.

Notice for the Publication of Draft Master Plan for Doomdoooma:

1. It is notified that the draft master plan for Doomdoooma prepared by the Director of Town & Country Planning, Government of Assam Town & Country Planning Act.1959 read with Sub-section I of section 10(Ten) of Assam Town & Country Planning Act (As amended), for the area described in the schedule below is hereby published.
2. Any person or persons affected by the draft master plan may submit their objection or opinion in writing to the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6 within two months from the date of publication.

3. The draft master plan for Doomdoooma with all relevant papers and maps may be inspected free of Cost during Office hours at the Office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, The Deputy Director , Town & Country Planning, District Office, Dibrugarh, the Circle Office, Doomdoooma Revenue Circle, Doomdoooma, Office of the Chairman, Doomdoooma Municipal Board, Doomdoooma. Copies of the draft master plan for Doomdoooma are available at the Office of the Director, Town & Country Planning, Government of Assam, Dispur, Guwahati-6, and the Office of the Deputy Director, Town & Country Planning, Dibrugarh on payment.

SCHEDULE

District	:	Tinsukia
Revenue Circle	:	Doomdoooma & Tinsukia
Block	:	Kakopothar & Hapjan
Mauza	:	Doomdoooma, Hapjan and Tingrai
Master Plan	:	Doomdoooma
Master plan area	:	54.46 Sq.km.
Urban Area	:	4.30 Sq.km.
Rural Area	:	50.16 Sq.Km.

Revenue Areas Included In Doomdoooma Master Plan

Sl. No	Name of town & village	Mauza	Block	Revenue Circle
1	Doomdoooma Municipal Board	Doomdoooma	-	Doomdoooma
2	Athengia Gaon	Doomdoooma	Kakopothar	Doomdoooma
3	Badalbheta T.E. 28 Wl	Doomdoooma	Kakopothar	Doomdoooma
4	Badalbheta T.E. 79/76 Nlr	Doomdoooma	Kakopothar	Doomdoooma
5	Bisa Kupi T.E. 73 Fs	Doomdoooma	Kakopothar	Doomdoooma
6	Bisakupi T.E. 72 Fs	Hapjan	Hapjan	Doomdoooma
7	Bisakupi Gaon	Hapjan	Hapjan	Doomdoooma
8	Daimukhiya Gaon	Hapjan	Hapjan	Doomdoooma
9	Daimukhiya T.E. 83 Wl	Hapjan	Hapjan	Doomdoooma
10	Kaliapani Gaon	Doomdoooma	Kakopothar	Doomdoooma
11	Mankhowa Gaon	Doomdoooma	Kakopothar	Doomdoooma
12	Ouguri Gaon	Hapjan	Hapjan	Doomdoooma
13	Sakreting 40 Wl	Doomdoooma	Kakopothar	Doomdoooma
14	Sakreting T.E. 135 Fs	Doomdoooma	Kakopothar	Doomdoooma
15	Doomdoooma Pather	Tingrai	Hapjan	Tinsukia

16	Hahsara 8 No. Grant	Tingrai	Hapjan	Tinsukia
17	Hahsara T.E 79/538 Gr	Tingrai	Hapjan	Tinsukia
18	Hahsara T.E 20/156 Orr	Tingrai	Hapjan	Tinsukia
19	Bisakupi T.E. 72 Wl	Hapjan	Hapjan	Doomdooma
20	Hahsara T.E. 59/56 Appl	Tingrai	Hapjan	Tinsukia
21	Bisakupi TE 8 No. LC	Doomdooma	Kakopothar	Doomdooma
22	Bisakupi 121 FS	Doomdooma	Kakopothar	Doomdooma
23	Bisakupi TE 121 WL	Doomdooma	Kakopothar	Doomdooma
24	Badlabheta TE 17 WL	Doomdooma	Kakopothar	Doomdooma
25	Badlabheta TE 111/114 NLR	Doomdooma	Kakopothar	Doomdooma
26	Fatikjan Gaon	Doomdooma	Kakopothar	Doomdooma
27	Hahsara 15/12 NLR	Tingrai	Hapjan	Tinsukia

DESCRIPTION OF BOUNDARIES

North : Tipuk 101 FS, 1 No. Rangajan Gaon, Nagaon, Asomiya Baliyan
South : Raidang TE122 Fs Grant, Samdang TE 46 Appl, Raidang TE 132 Fs.
East : Bordubi TE 207/205 Nlr, Bordubi TE 4/544 Wl, Badlabheta TE No-559 Wl.
West : Daimukhia TE No. 84, Rupai TE 38/32, Daimukhiya TE 12 Wl, Daidam TE 135/138 Wl.

RAJESH PRASAD,

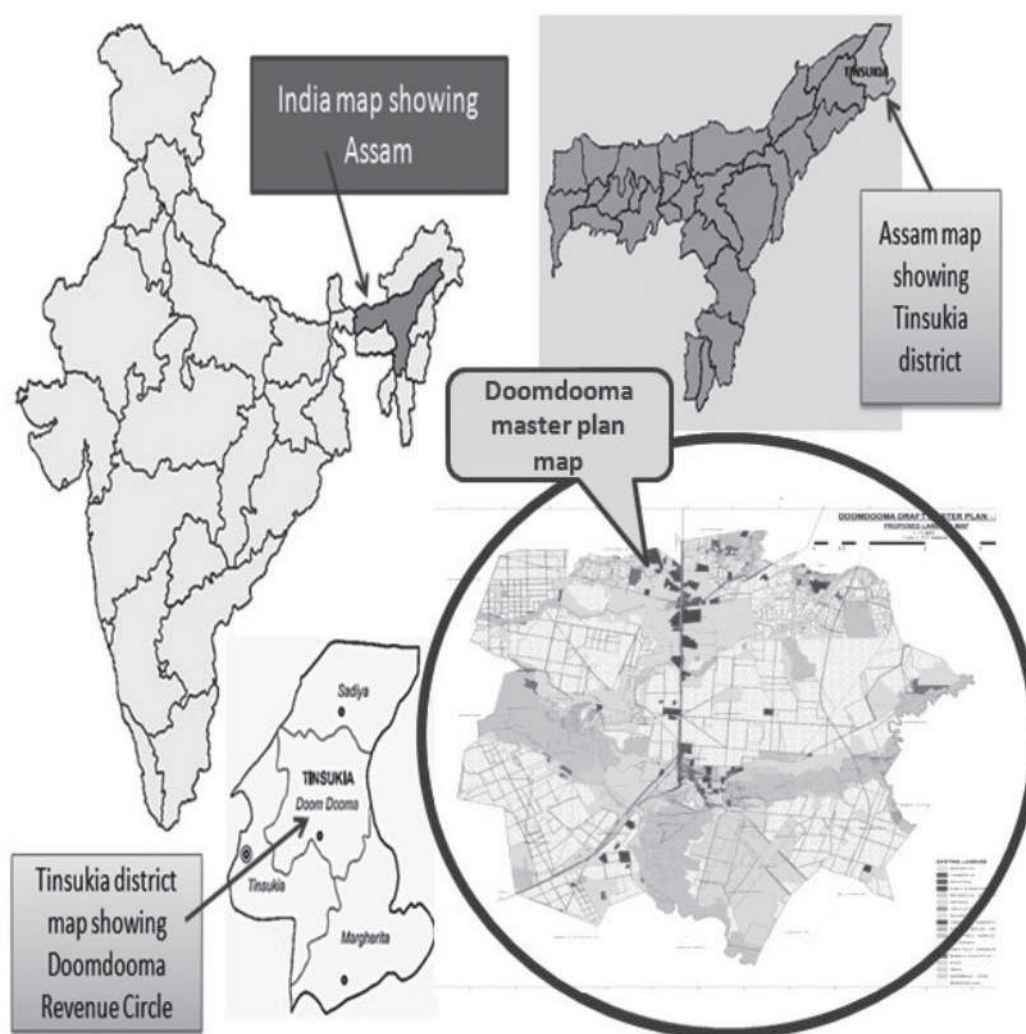
Principal Secretary to the Government of Assam,
Department of Housing & Urban Affairs.

CHAPTER - 1

1. INTRODUCTION TO MASTER PLAN AREA

1.1 Location

Doomdooma is tea-based industrial town of Assam. It is situated 512.3 km. towards north-east from state capital Dispur by road and 74.9 km. from nearest important town Dibrugarh and 25.1 Km from district head quarter Tinsukia. The town and its surrounding villages itself have a natural scenic beauty with the tea gardens and the place of habitants of the various ethnic tribes and linguistic people with their own cultural heritage. The geographical location of Doomdooma town is 27.57° North latitude and 95.57° East longitude and has an average elevation of 114 meters. The Assam Trunk road NH-15 (new) passes through Doomdooma. The Doomdooma river divides the town in two parts.



1.2 Regional Setting

Doomdoooma master plan region falls in the north-eastern part of India in the upper Assam valleys. The whole master plan area is a flat level plain in the Doomdoooma, Hapjan and Tingrai Mouzas. The general physical feature of the master plan area is both varied and picturesque in nature. The soil is composed of loose sandy texture with occasional sands and gravels. The phosphoric content is found in the soil which is good for tea cultivation. Acidic alluvial soils are suitable for tea cultivation. Like the rest of Assam, Doomdoooma master plan region is also a seismic area and is liable to earthquake. The great earthquake of 1897 was felt all over the region. It damaged many houses and buildings of the people as well as of the Govt. Again the earthquake of August 15, 1950 has also damaged houses buildings and roads.

The after effect of the earthquake brought a vast change to the topography of the region. The surrounding areas of Doomdoooma are mainly covered by tea gardens.



1.3 Brief History of the town

Doomdooma has been ruled by many kings of dynasties across Assam and the most significant ones were the Ahom dynasty, the Kachari dynasty and the Moran dynasty before the impact of the British in Assam. But, Doomdooma was an unseen and underdeveloped region for many decades, mostly covered with forests. The dense forest of the place gave a very safe habitat to elephants and hence the area is known after elephants. The name Doomdooma is derived from the sound of the footfalls of elephants which sounded much like 'dumdum'.



Old Historical map showing Doomdooma

When British ruled the region they had noticed the region as an excellent place for the cultivation of tea and cleared the forests and set up tea farms which gave the place a new identity and made it known among people as the "tea-town". In Doomdooma revenue circle, out of 430 villages there are 142 tea estates which is the highest in any revenue circle of Assam.



Bisakupi Tea Estate



Hahsara Tea Estate

Doomdooma town was originally a part of Lakhimpur district and thereafter it was a part of Dibrugarh district. When Tinsukia formed a separate district in 1989, Doomdooma was created a revenue circle of Tinsukia district. Present Doomdooma Municipal Board is the oldest of the five Town Committees of the undivided Lakhimpur district. It was started as a Union Committee in 1916 and was upgraded to the status of a town committee in 1925 under the Assam Municipal Act of 1923 with 4 wards. According to the 1961 Census the town comprised an area of about 2.59 Sq.Km. and had a population of 8192 persons of which 5319 were males and 2873 females. In 1971 Census the population increase to 10510 persons of which 6190 were males and 4320 were females. The density of population was 4058 persons per Sq. Km. Later on existing 4 wards increased to 10 wards. As per Govt. Notification in 2018, Doomdooma town committee was converted to Doomdooma municipal board.



Doomdooma Municipal Board

1.4 Climate

The climate of Doomdooma is characterized by the absence of a dry hot summer season, the highest temperature being experienced during the monsoon season along with abundant rains and highly humid atmosphere throughout the year. Winter starts from December and end in February which is followed by a season of thunder storms from March to May. From June to the beginning of October is the season of south-west monsoon and October and November are marked as post monsoon season. The annual rainfall varies marginally from one to other. The cold season starts towards the end of November when both day and night temperatures begin to decline December and January are the coldest month of the year. With the mean daily maximum temperature at about 24° C and the mean daily minimum at 9° C to 11° C. Temperature begins to rise from the beginning of March. The rise in temperature continues up to September. The highest mean daily temperature experienced in July and August when the mean daily maximum temperature goes up to maximum of 34° C and the mean daily

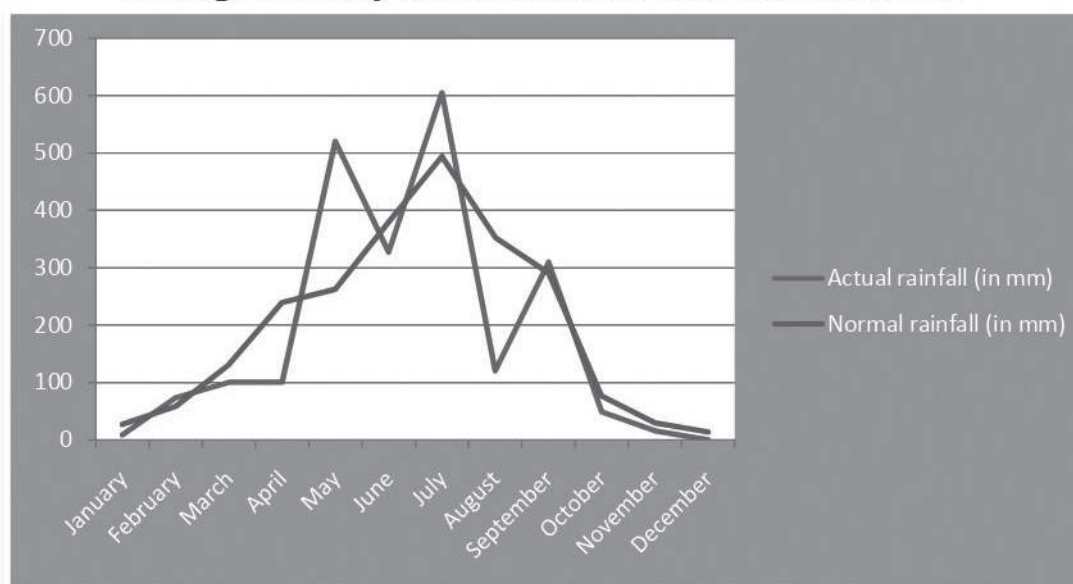
minimum temperature varies between 20° C to 25° C. With the termination of the monsoon season the weather become gradually pleasant and cool. The air remains highly humid throughout the year except during the period of February to march when the relative humidity is comparatively less particularly in the afternoon. Winds are light throughout the year except the short spells of strong winds during thunder storms in the period from March to May.

TABLE No-1
Average monthly rainfall data in Doomdooma in 2019

Month	Actual rainfall (in mm)	Normal rainfall (in mm)
January	8.8	26.6
February	73.5	58.4
March	100.3	131.2
April	100.5	239.3
May	520.4	262.6
June	327.2	379.3
July	604.8	493.9
August	120.6	352.7
September	309.8	291
October	48.8	76.9
November	16.2	29.3
December	0.2	13.7
Average Annual rainfall	2231.1	2354.9

Source:- Statistical Hand Book Assam 2020

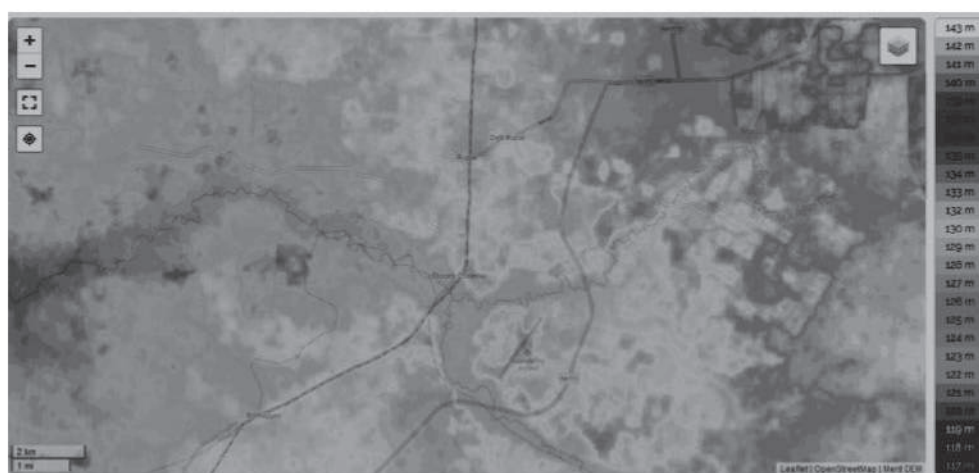
Figure No-1
Average monthly rainfall data of Doomdooma in 2019



1.5 Topography

Topography is the study of the shape and features of the surface of the earth. The topography of an area could refer to the surface shapes and features themselves, or a description in maps. In modern usage topography involves generation of elevation data in digital form. It is often considered to include the graphic representation of the landform on a map by a technique, including contour lines, hypsometric tints and relief shading.

Below is the elevation map of Doomdooma, which display range of elevation with different colours. The map also provides idea of topography and contour of Doomdooma.



Topographical map of Doomdooma

1.6 Soil Condition

Physiographically the area is characterized by Doomdooma river plains in the southern part with gentle slope towards south-east. The soil in the area may be grouped in to three broad categories depending upon the origin and occurrence. These are given below-

- a. Newer alluvial soil – Flood plain areas of river Doomdooma and the tributaries in the northern part are characterized by light gray clay with sand and silt.
- b. Older alluvial soil - It occurs mainly in the central part with limonite yellow to reddish yellow clay.

Tertiary group of sedimentary rocks are confined to the southernmost part of Doomdooma where ground water occurs in the shallow weathered zone and this may be developed through large diameter open wells. Alluvial plain covers major part of the area. Ground water occurs in regionally extensive aquifers down to explored depth with a very good yield prospect. The aquifers are consisting of sand of various grades and are suitable for both shallow and deep tube wells. Doomdooma region

is covered by alluvial deposits of recent and sub-recent origin. In many places of the area, there are terrace deposits.

1.7 Settlement Pattern

Doomdooma experienced the settlement of traders, construction workers, plantation workers, commercial establishment employee's, tea-based and other industrial worker's, service oriented workers and Govt. employee's since the early days. In Doomdooma revenue circle more than 140 tea gardens and in master plan area there are 18 tea gardens which support a huge number of labourers and their families and the members of supervisory and managerial staff. In the town area settlement pattern mainly exhibits by the Hindi, Bengali and Assamese speaking population. Plantation labour worker and indigenous people settlement is mainly found in the rural areas

1.8 Rural-Urban-Scenario

Doomdooma master plan covers an area of 54.46 sq.km. Out of this urban area consists of 4.30 sq.km. and 50.16 sq.km. occupy by rural area. As per 2011 census urban area population is 21572 persons and rural area population is 40029 persons. So, in Doomdooma master plan area (TMPA), urban population consists of 35.02% and rural area population consists of 64.98%. Since originally Doomdooma developed as a tea-based town and there are so many tea-gardens in the periphery of the town and the population working as tea workers and in tea factories and therefore the percentage of rural population is higher in comparison to urban population in the master plan area.

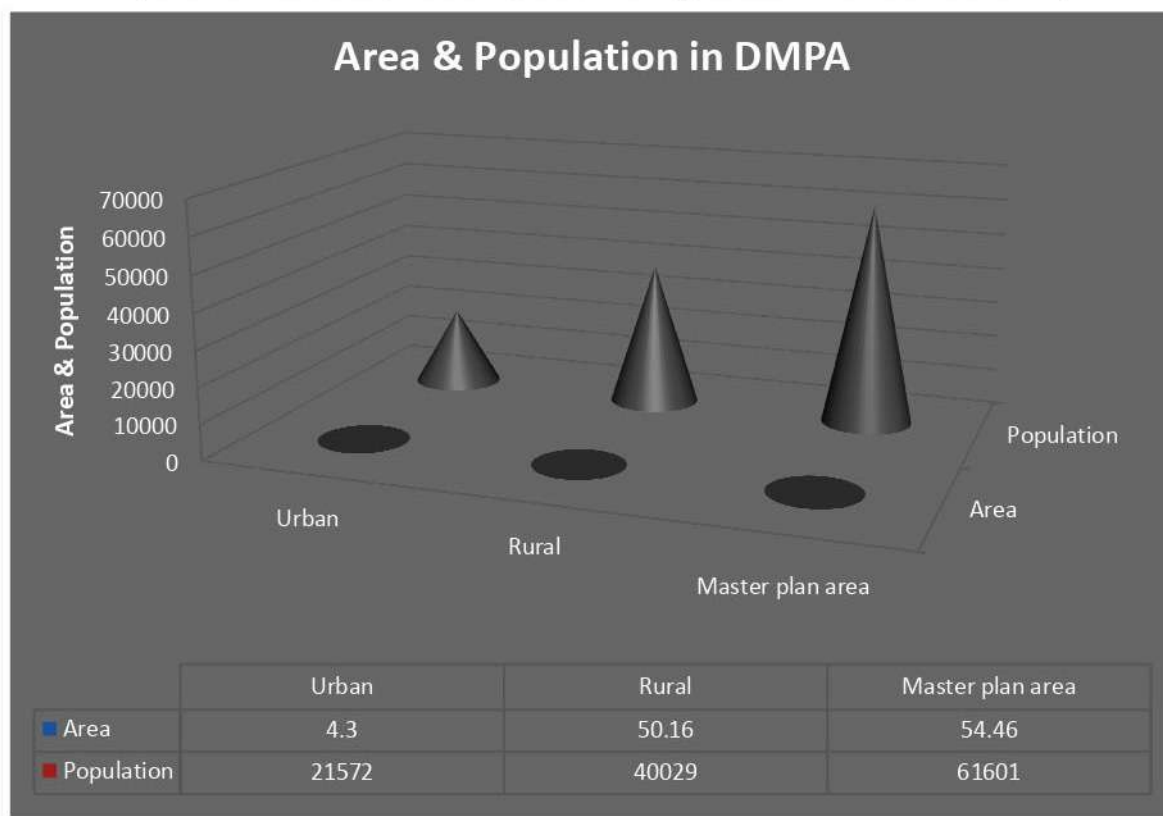
TABLE NO :- 2

Urban & Rural Area Population Figure in Master Plan Area

Name of the Master plan area	Category of area	Area in sq.km	Population in 2011
Doomdooma master plan	Urban	4.30	21572
	Rural	50.16	40029
Total		54.46	61601

Source:- Census of India 2011

FIGURE NO-2
Urban & Rural Area Population Figure in Master Plan Area



1.9 Physical Growth and Expansion of the town

Physical growth and expansion of Doomdooma town has been mainly taken place due to the commercial establishment, tea based industries, Hindustan Unilever Limited. Further, expansion of the town also takes place due to the Defence point of view such as Doomdooma Aviation Research Centre, Indo-Tibetan Border Police, Border Roads Organisation.

For planning purpose Doomdooma master plan area has been divided into the following zones:-

A. The Urban zone comprises the following areas:

1. 10 (ten) wards under Doomdooma Municipal Board.

B. The rural zone comprises the following villages and tea gardens.

1. 8 Villages.
2. 18 Tea Gardens.

TABLE NO-3
Detailed area of Doomdooa Master Plan

Sl. No	Name of Area	Area in Sq. km.
1	Doomdooa MB area	4.30
2	AthengiaGaon	3.40
3	Badalbheta T.E. 28 Wl	0.04
4	Badalbheta T.E. 79/76 Nlr	2.62
5	BisaKupi T.E. 73 Fs	3.52
6	Bisakupi T.E. 72 Fs	2.06
7	Bisakupigaon	3.13
8	Daimukhiyagaon	1.91
9	Daimukhiya T.E. 83 Wl	2.97
10	Kaliapanigaon	0.53
11	Manuhkhowagaon	1.9
12	Ougurigaon	1.63
13	Sakreting 40 Wl	0.30
14	Sakreting T.E. 135 Fs	4.48
15	DoomdooaPather	0.81
16	Hahsara 8 No. Grant	1.63
17	Hahsara T.E 79/538 Gr	0.99
18	Hahsara T.E 20/156 Orr	2.00
19	Bisakupi T.E. 72 Wl	1.30
20	Hahsara T.E. 59/56 Appl	2.33
21	Bisakupi TE 8 No. LAC	1.62
22	Bisakupi 121 FS	3.19
23	Bisakupi TE 121 WL	0.16
24	Badlabheta TE 17 WL	0.29
25	Badlabheta TE 111/114 NLR	2.18
26	FatikjanGaon	3.69
27	Hahsara 15/12 NLR	1.48
TOTAL		54.46 Sq. Km.

Source : Area as per GIS calculation

1.10 Need of the Master plan

The concept of planning has evolved gradually through the changing demand of man and environment but has assumed greater significance and wider connotation with the inception of the present century. The rapid pace of industrial expansion and urbanization has hastened the growth of urban centres. The forces operating behind urban expansion in recent years is becoming more and more difficult to direct or to control. To check the

unplanned and haphazard growth of the towns, the principles of planning has been accepted as urgent an imperative.

A town is composed of land, building, people, utilities, services and transportation. It is a large configuration of more or less permanent settlers engaged in diverse economic activities. As the town grows, it attracts larger population; it enlarges the scope of their activities, while the complexity of living distorts the well organized concept of the urban space organization.

Master plan is a statutory instrument for the provision of long-range vision for the built environment of a community. It guides the appropriate use of lands within a town and its adjacent areas in order to protect the public health and safety and to promote general welfare. Among other issues, the master plan can identify suitable locations for commercial, housing and mixed-use development; locations where the city/town should increase density, use redevelopment or intervene otherwise; opportunities to extend or improve open space, recreational areas and civic facilities; strategies for increasing economic development; environmental, historic strategies for solving congestion, improving transit services and also enhance the aesthetic beauty of the town. As a result, the master plan has a direct relationship to its citizens, whether we live, work or own a business.

The evils of unplanned growth of our towns have caused enormous problems such as shortage of living accommodation, traffic congestion, lack of sanitation and other community facilities and amenities. The growth of population and the potentiality of Doomdooma to be an industrially and commercially vibrant town in the near future had led the state Government to realize the importance of proper planned growth of the town and the preparation of the master plan for this purpose.

In order to translate the suggested developments for Doomdooma into action, it would be necessary to follow this master plan which is designed to regulate the future growth and to affect a uniform community. In preparing the master plan for Doomdooma, various surveys such as land-use, socio-economic etc. were carried out to understand the existing scenario of the town and to suggest the line of actions to be adapted.

It is highly desirable at this point that the citizens of Doomdooma should clearly understand the need for the master plan because a master plan is the city/town's long range plan and is important as it affects things we do every day and how we will do then in the future master plan guide city/towns decisions about important issues like what economic development strategy the city town should take; where certain types of business should the town try to attract; how much parking should be provided in neighbourhood; what improvements should be made to parks and recreations centres; How to protect our natural resources;

why certain areas are designed as historic places. So when we wonder why a building is allowed to be located somewhere, why certain streets are one-way streets, why a park has been built in our neighbourhood; a good place to start looking is the master plan. As such the most desired results could be positive civic interest and greater confidence which will create a conducive environment and our descendents will profit by our forethought or suffer from our negligence. What better work can we achieve than make their path easier, their homes more intimate, their public buildings more attractive and accommodating.

CHAPTER -2**2. DEMOGRAPHY****2.1 Total Population**

Demography is the study of human population such as size, growth, density, distribution and vital statistics. It helps to understand population dynamics by investigating three main demographic processes in Doomdoooma. It is essential that a good understanding of a population dynamics provide the basic for decision making, policy development and planning social and economic development processes and outcomes are depends upon the detailed study of population characterized of any planning area.

According to census of India 2011, the total population of Doomdoooma master plan area is 61601 persons, out of which 21572 persons live within Doomdoooma municipal board, 40029 persons live in rural areas of the town. The following table shows the population distribution within Doomdoooma master pan area.

TABLE NO. 4
Population of Doomdoooma Master Plan area in 2011

Sl.No	Area	Population (2011)	Percentage (%)
1	Doomdoooma municipal board	21572	35.02 %
2	26 villages & tea gardens	40029	64.98 %
	Master Plan Area	61601	100 %

(Source : Census of India 2011)

FIGURE NO. 3
Population Distribution of Doomdoooma Master Plan Area in 2011

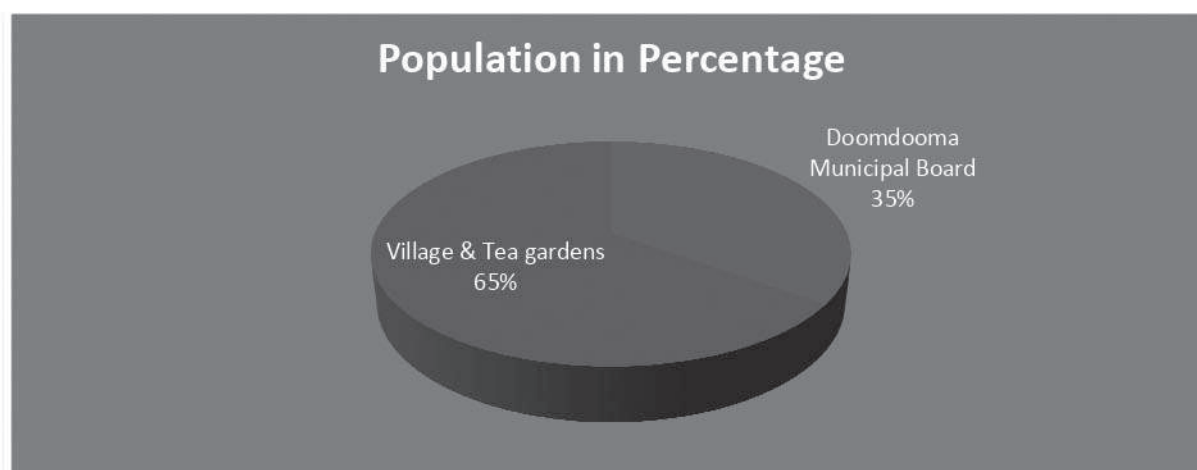


TABLE NO. 5
Detail population distribution of Doomdooma Master Plan area in 2011.

Name	Population		
	Male	Female	Total
Ward No. 1	2968	2487	5455
Ward No. 2	550	502	1052
Ward No. 3	709	601	1310
Ward No. 4	542	458	1000
Ward No. 5	639	583	1222
Ward No. 6	609	526	1135
Ward No. 7	955	875	1830
Ward No. 8	1418	1287	2705
Ward No. 9	1325	1219	2544
Ward No. 10	1761	1558	3319
(A) Doomdooma Municipal Board area	11476	10096	21572
AthengiaGaon	598	574	1172
Badalbheta T.E. 28 Wl	160	161	321
Badalbheta T.E. 79/76 Nlr	293	321	614
BisaKupi T.E. 73 Fs	572	582	1154
Bisakupi T.E. 72 Fs	745	735	1480
Bisakupigaon	1167	1201	2368
Daimukhiyagaon	1054	992	2046
Daimukhiya T.E. 83 Wl	745	735	1480
Kaliapanigaon	61	61	122
Manuhkhowagaon	1727	1630	3357
Ogurigaon	1744	1706	3450
Sakreting 40 Wl	179	189	368
Sakreting T.E. 135 Fs	189	172	361
DoomdoomaPather	1131	997	2128
Hahsara 8 No. Grant	1438	1435	2873
Hahsara T.E 79/538 Gr	827	882	1709
Hahsara T.E 20/156 Orr	235	232	467
Bisakupi T.E. 72 Wl	425	497	922
Hahsara T.E. 59/56 Appl	604	606	1210
Bisakupi TE 8 No. LAC	3109	2253	5362
Bisakupi 121 FS	739	693	1432
Bisakupi TE 121 WL	Uninhabited	Uninhabited	Uninhabited
Badlabheta TE 17 WL	Uninhabited	Uninhabited	Uninhabited
Badlabheta TE 111/114 NLR	341	361	702
FatikjanGaon	1825	1757	3582
Hahsara 15/12 NLR	684	665	1349
(B) Rural area population	20592	19437	40029
(A) + (B) Total Master Plan area	32068	29533	61601

(Source : Census of India, Assam 2011)

FIGURE NO.4
Male & Female population distribution of
Doomdooma Master Plan Area in 2011

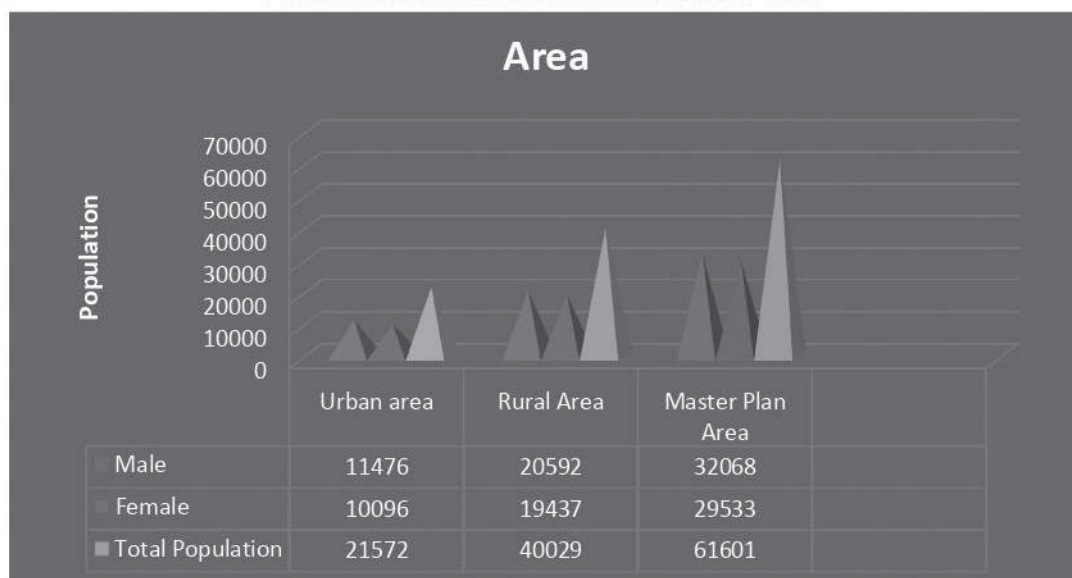
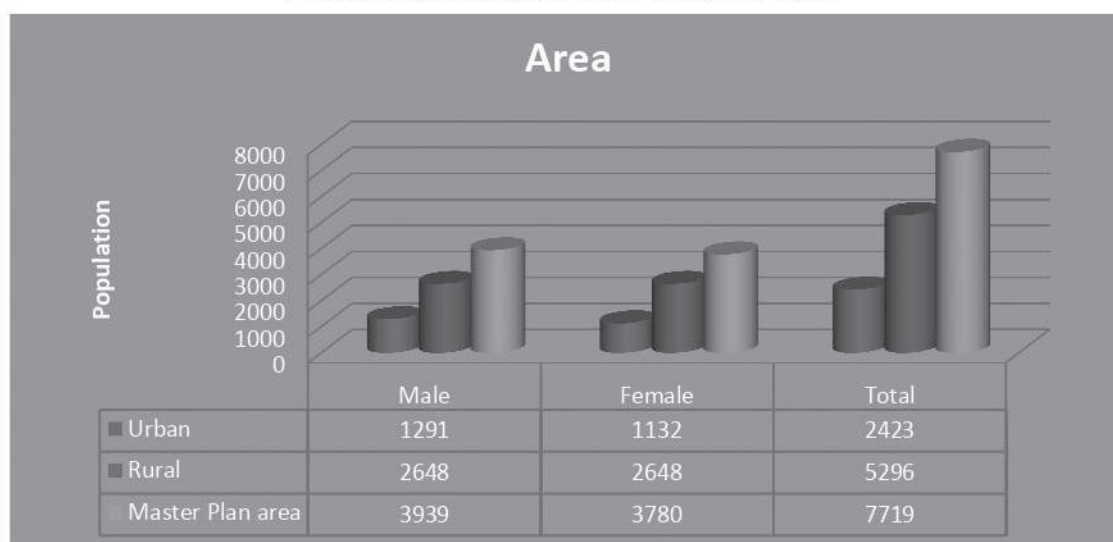


TABLE NO. 6
Population distribution of 0 - 6 years age group of
Doomdooma Master Plan area in 2011.

Name	Population		
	Male	Female	Total
Urban area	1291	1132	2423
Rural area	2648	2648	5296
TOTAL MASTER PLAN AREA	3939	3780	7719

Source:- Census of India 2011

FIGURE NO. 5
Population distribution of 0 – 6 years age group of
Doomdooma Master Plan area in 2011



2.1.1 Population Growth Rate

The purpose to provide facilities and services in community is to meet the physical, economic and social needs of the people. It is a study and understanding of the growth, distribution, composition and other characteristics of the population and trend are therefore the basic requirement for the wider range planning programmers. The objective of the master plan for Doomdooa is to cater to the various needs emerging from these studies in order to meet the aspirations of its residents for whom the plan is prepared.

Table No. 7
Growth of population in Doomdooa Municipal area

Year	Population	Decadal Growth Rate
1921	1162	-
1931	1900	63.51 %
1941	2177	14.57 %
1951	3099	42.35 %
1961	8192	132.07 %
1971	10425	27.59 %
1981	No census in Assam	No census in Assam
1991	15121	45.04 % (for 2 decades)
2001	19806	30.98 %
2011	21572	8.92 %

Source:- Census of India 2011

Figure No.-6
Decadal growth of population in Doomdooma Municipal area
1921 to 2011

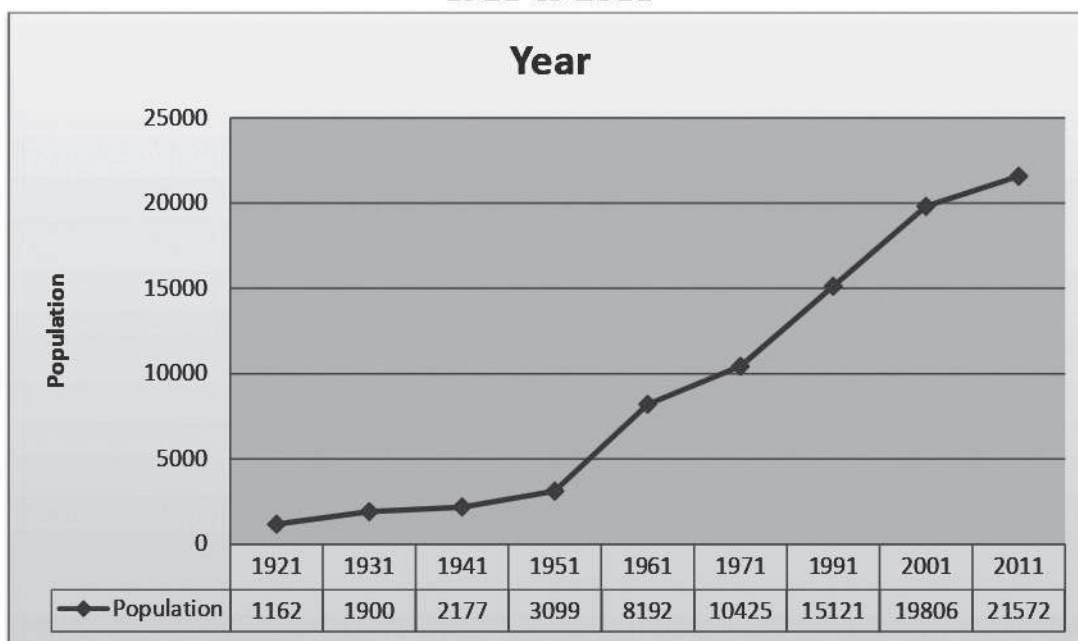


Figure No.-7
Decadal growth of population (in %) in Doomdooma Municipal area

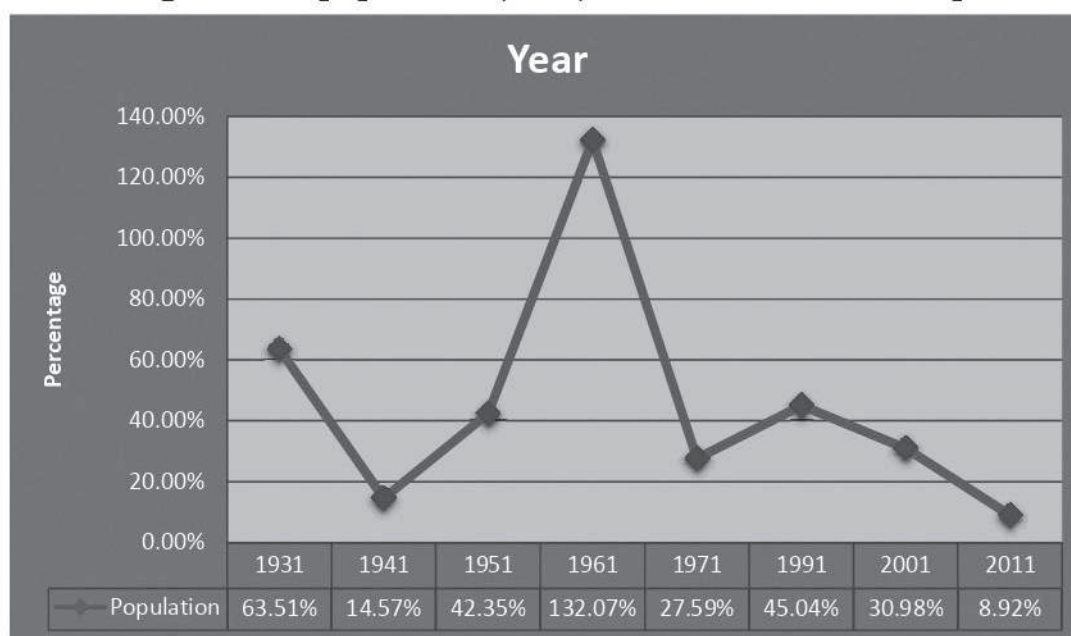


Table No. 8
Growth of population in Doomdooma Master Plan

Year	Urban Area			Rural Area			Master plan Area		
	Population	Decadal increase of population	Decadal Growth (%)	Population	Decadal increase of population	Decadal Growth (%)	Population	Decadal increase of population	Decadal Growth (%)
1991	15121	-	-	22838	-	-	37959	-	-
2001	19806	4685	30.98 %	33654	10816	47.36 %	53460	15501	40.84 %
2011	21572	1766	8.92 %	40029	6375	18.94 %	61601	8141	15.23 %

Source:- Census of India 2011

FIGURE NO.-8
Growth of population in Doomdooma Master Plan

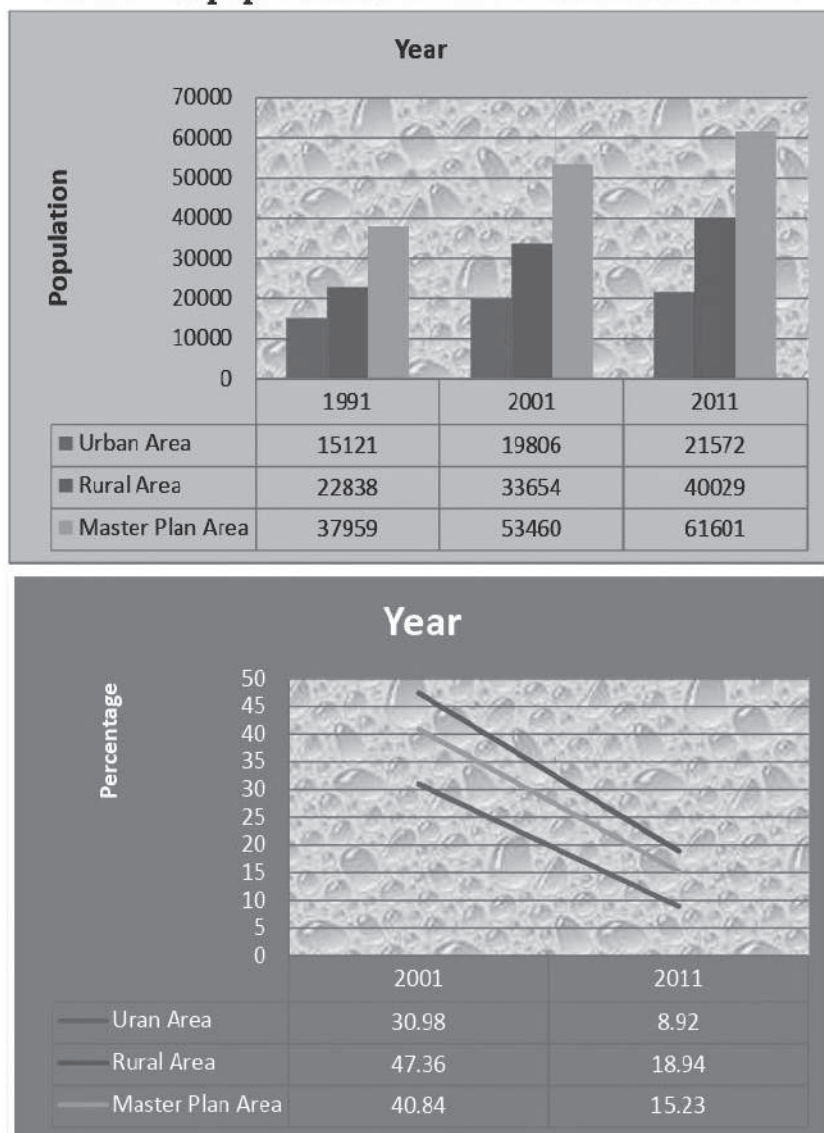


TABLE NO. 9
Population growth rate of Assam and Doomdooma Master Plan Area:
1991 – 2011

Area	Population			Growth Rate in %	
	1991	2001	2011	1991-2001	2001-2011
Assam State					
Total	22.49	26.66	31.17	18.54 %	16.93 %
Urban	2.49	3.44	4.39	38.24 %	27.61 %
Rural	19.93	23.22	26.78	16.51 %	15.35 %
* Population in Millions					
Doomdooma Master Plan					
Total	37.96	53.46	61.60	40.84 %	15.23 %
Urban	15.12	19.81	21.57	30.98 %	8.92 %
Rural	22.84	33.65	40.03	47.36 %	18.94 %
* Population in Thousand					

Source:- Census of India 2011

2.1.2 Population Density

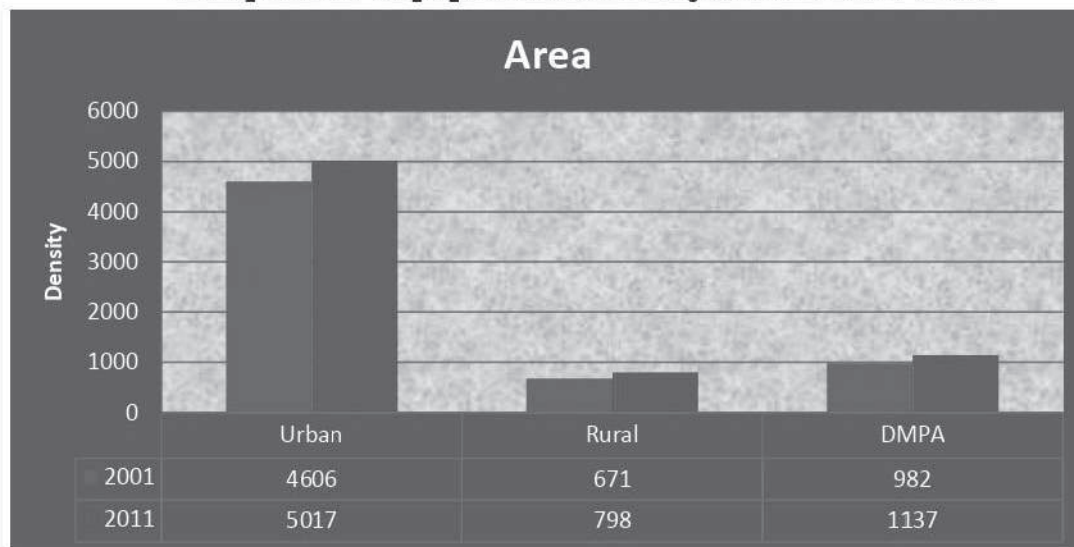
The net density of population in Doomdooma municipal board area in 2011 is 5017 person per sq.km. In rural area of master plan the density is 798 persons per sq.km. If we consider the master plan as a whole the density of population in 2011 is 1137 person per sq.km. in Doomdooma master plan area.

TABLE NO-10
Comparison of population density in 2001 and 2011

Year	Urban area	Rural area	Master plan area
2001	4606	671	982
2011	5017	798	1137

Source:- Census of India 2001 & 2011

FIGURE NO-9
Comparison of population density in 2001 and 2011



2.2 Sex Ratio

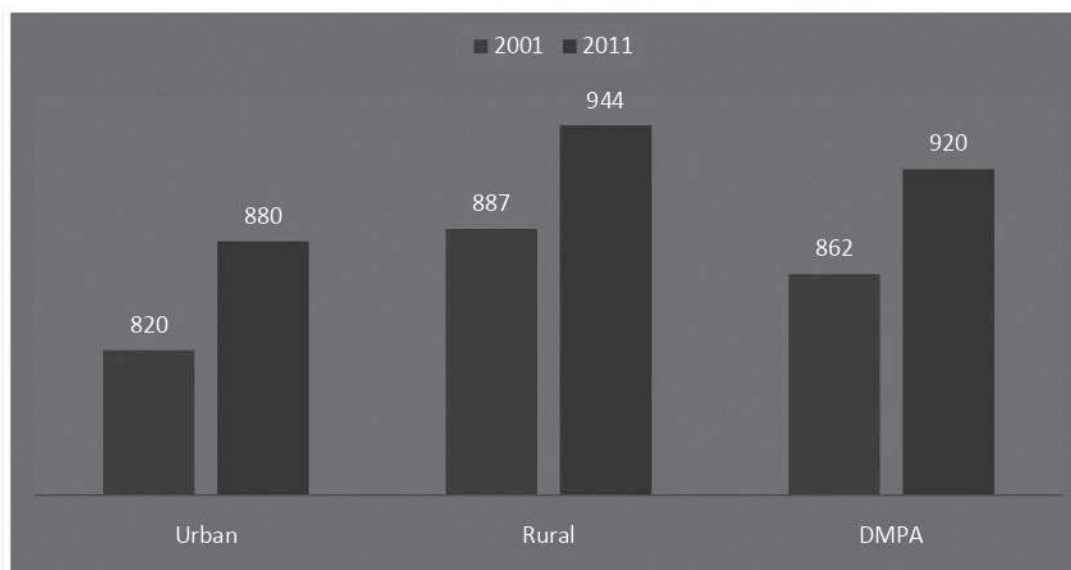
As per 2001 census the sex ratio in urban area of Doomdooma master plan was 820 which is increase to 880 in 2011 census. In rural area sex ratio increased from 887 in 2001 to 944 in 2011. In Doomdooma master plan area as a whole the sex ratio increases from 862 in 2001 to 920 in 2011. It has been noticed that the sex ratio in rural area as compared to urban area of master plan is higher both in the year 2001 and 2011. It is due to the fact that Doomdooma master plan area is mainly a tea garden based area and pre-dominance of female worker has been seen in tea gardens. Sex ratio of Doomdooma master plan has been shown in the following table.

TABLE NO. 11
Comparison of Sex Ratio in 2001 & 2011
in Doomdooma Master Plan area

Year	Area	Male	Female	Sex-ratio
2001	Urban	10881	8925	820
	Rural	17828	15826	887
	Master Plan Area	28709	24751	862
2011	Urban	11476	10096	880
	Rural	20592	19437	944
	Master Plan Area	32068	29533	920

Source:- Census of India 2011

FIGURE NO-10
Comparison of Sex Ratio in 2001 & 2011
in Doomdooma Master Plan area



2.3 Literacy

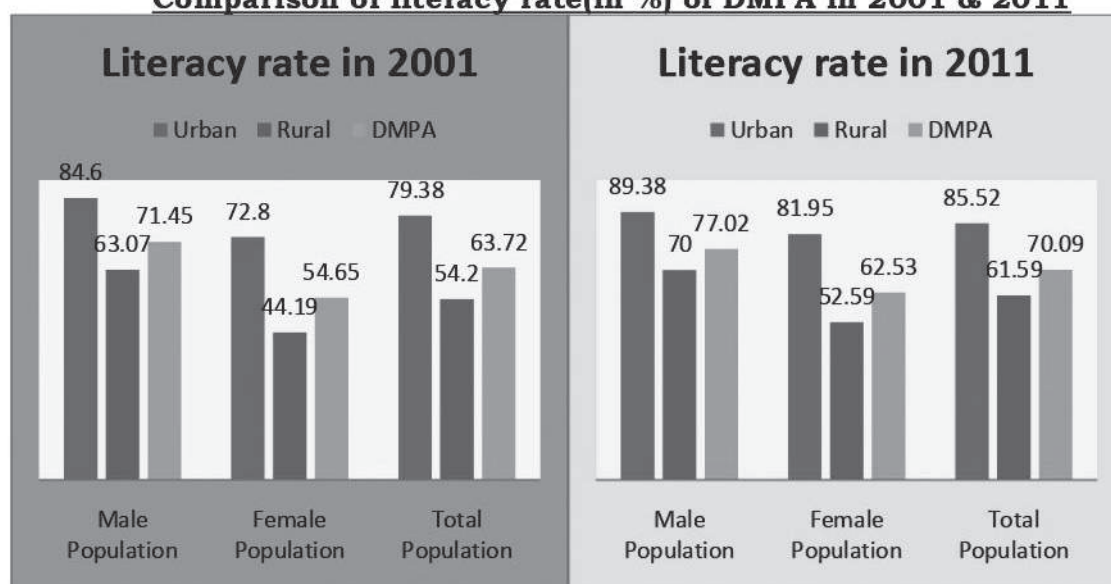
The literacy rate of Doomdooa urban area as per census of India report, 2011 is 85.52% which is just below state urban literacy rate of 88.88%. In the master plan area the literacy rate in 2011 is 70.09%. The comparison of literacy rate in 2001 and 2011 for Doomdooa master plan area is given below:-

TABLE NO:-12
Comparison of literacy rate of DMPA in 2001 & 2011

LITERACY RATE OF DMPA - 2001												
Area	Total Male pop	Total Male pop Excluding 0-6 age	Actual Male Lit pop	% Male Lit	Total Female pop	Total Female pop Excluding 0-6 age	Actual Female Lit pop	% Female Lit	Total Pop	Total pop Excluding 0-6 age	Total Actual Lit Pop	% of Total Lit
Urban	10881	9565	8093	84.60%	8925	7654	5575	72.8%	19806	17219	13668	79.38%
Rural	17829	15022	9474	63.07%	15825	13313	5883	44.19%	33654	28335	15357	54.20%
DMPA	28710	24587	17567	71.45%	24750	20967	11458	54.65%	53460	45554	29025	63.72%
LITERACY RATE OF DMPA - 2011												
Urban	11476	10185	9103	89.38%	10096	8964	7274	81.95%	21572	19149	16377	85.52%
Rural	20592	17944	12561	70.00%	19437	16789	8830	52.59%	40029	34733	21391	61.59%
DMPA	32068	28129	21664	77.02%	29533	25753	16104	62.53%	61601	53882	37768	70.09%

Source:- Census of India 2001 & 2011

FIGURE:-11
Comparison of literacy rate(in %) of DMPA in 2001 & 2011



2.4 Working and Non-Working Population

Out of total population of 61601 persons in Doomdooma master plan area the working population is 24255 persons equivalent to 39.37% which is slight higher than the national average of 38%. The balance non-working population is 37346 i.e. 60.63% mainly consist of women group and unemployed section of the population who are seeking employment in white collard jobs as well as investment opportunities in business.

TABLE NO:-13

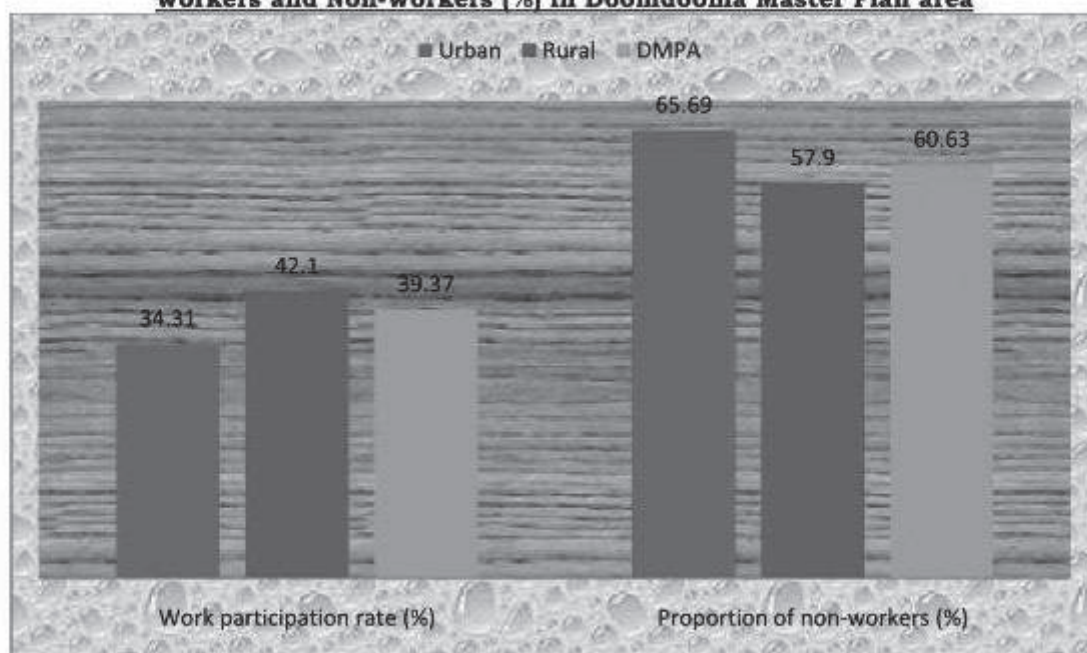
Workers And Non-Workers In Doomdooma Master Plan area

Category	Urban Area			Rural Area			Total (Master Plan Area)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Main Workers	5538	692	6230	8708	3747	12455	14246	4439	18685
Marginal Workers	881	291	1172	2402	1996	4398	3283	2287	5570
Total Workers	6419	983	7402	11110	5743	16853	17529	6726	24255
Non-workers	5057	9113	14170	9500	13676	23176	14557	22789	37346
Work participation rate (%)	55.93	9.74	34.31	53.91	29.57	42.10	54.63	22.79	39.37
Proportion of non-workers (%)	44.07	90.26	65.69	46.09	70.43	57.90	45.37	77.21	60.63

Source:- Census of India 2011

FIGURE NO:-12

Workers and Non-Workers (%) in Doomdooma Master Plan area



2.5 SC-ST Population

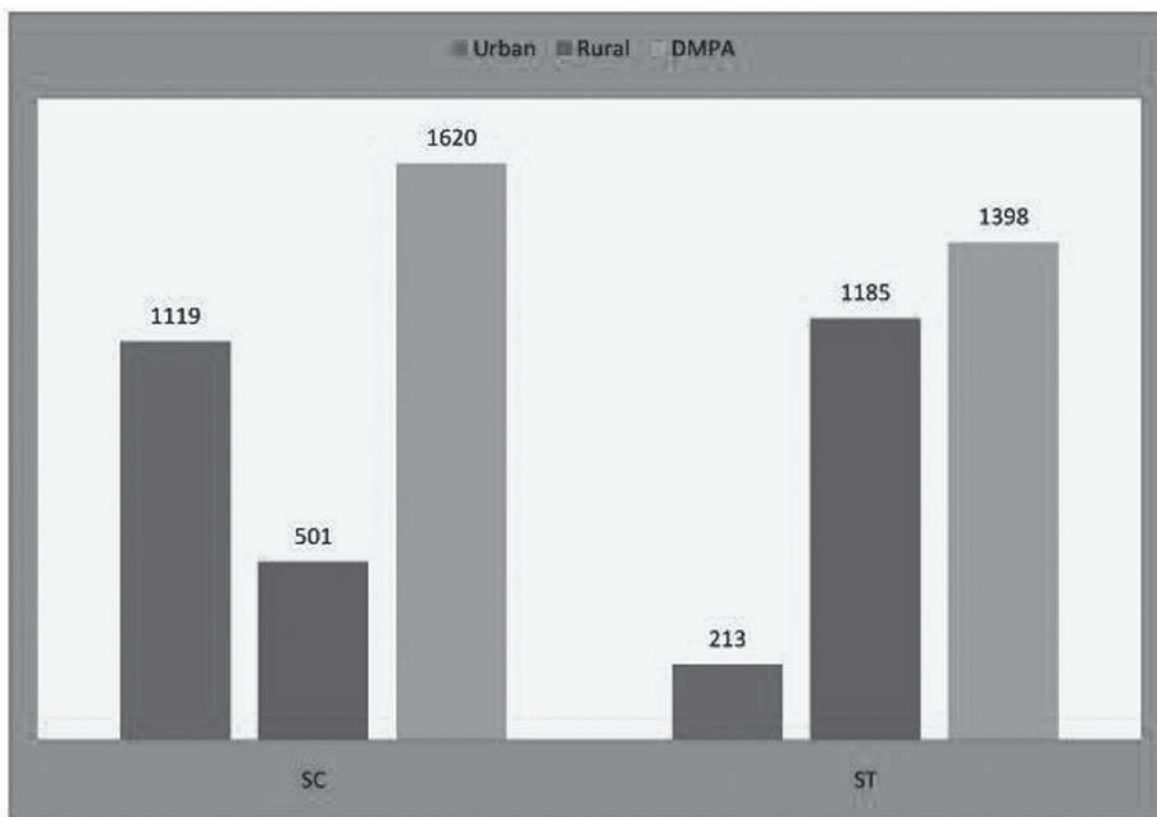
The details of SC and ST population for the Doomdooma master plan area (DMPA) have been shown in the following table.

TABLE NO:- 14
SC and ST population of DMPA in 2011

Caste	Urban	Rural	DMPA
SC	1119	501	1620
ST	213	1185	1398

Source:- Census of India 2011

FIGURE :-13
SC and ST population of DMPA in 2011



2.6 Migration Population

The robust local economy once attracted scores of people from other parts of the country to settle here in search of jobs and business opportunities. In addition to Assamese and various indigenous ethnic groups, the town is home to hundreds of people who migrated from undivided Bengal, Bihar, Uttar-Pradesh for business purposes. Apart from these a large section of tea-garden workers from Orissa and Jharkhand migrated to this region since long back to work as a labourer in the tea gardens.

2.7 Residential Density and Size

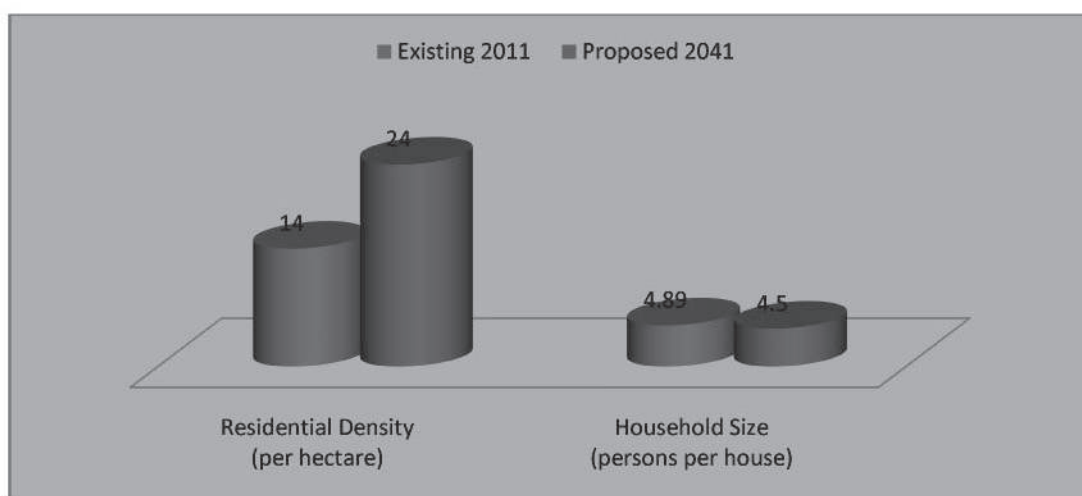
There are about 12588 residential houses in the year 2011 in Doomdooma master plan area. The total population of planning area is 61601 persons, as such, household size is 4.89 persons. Since in Doomdooma master plan the existing land used for residential purposes is 885 hectares, as such existing residential density is 14 dwelling units per hectare. As per projection, gross housing requirement in the planning area is 32155 in 2041 and proposed land uses for residential purpose is 1352 hectares, as such the residential density in the year 2041 will be 24 dwelling units per hectare. The household size in 2041 will be 4.5 persons per house.

TABLE No-15
Existing and proposed Residential Density
and Household size comparison in 2011 and 2041

	Existing 2011	Proposed 2041
Residential Density	14 / hectare	24 / hectare
Household Size	4.89 persons / house	4.5 persons / house

Source:- Census of India 2011

FIGURE No-14
Existing and proposed Residential Density
and Household size comparison in 2011 and 2041



2.8 Population Projection

Population projection is a forecasting tool that helps to estimate the changes in population size and demographic structure. It is mandatory for the Govt. Policy makers and planners of Assam, in order to determine the future demand for basic human needs such as food, water, education, energy and services and to forecast future demographic characteristics.

The main objective is to provide or undertake activities aimed at achieving population stabilization, sustainable economic growth, social development and environmental protection by 2041.

Population projection is a scientific attempt to keep into the future population scenario, conditioned by making certain assumptions, using data to the past available at that point of time. Assumption's used and their probability of adhering in future forms a critical input in this mathematical effort. Predicting the future course of human fertility and mortality is not easy, especially when looking beyond much further in time. Medical and health intervention strategies, food production and its equitable availability, climatic variability, socio-cultural setting, economic condition and a host of other factors influence population dynamics, making it a somewhat unpredictable exercise. Therefore much caution must be exercised when either making or using the population projection and the context of various conditions imposed, should not be lost sight of on the basis of past behaviour and the likely future scenario assumed.

The final population projections of Doomdooma master plan area have thus been arrived at with the entire base population of 1991 accounted for as the natural population, by adding to the natural population the increase due to the natural growth plus the increase due to emigrational flow of trade & commerce including natural increase of migrants. The following table shows the population projection up to 2041 for Doomdooma master plan area.

TABLE NO - 16
Population projection of Doomdooma master plan area 1991-2041

YEAR	Urban Population	% of increase	Rural Population	% of increase	Master Plan Area Population	% of increase
1991	15121		22838		37959	
2001	19806	30.98 %	33654	47.36 %	53460	40.84 %
2011	21572	8.92 %	40029	18.94 %	61601	15.23 %
2021	25597	18.66 %	48702	21.66 %	74299	20.61 %
2031	37301	45.72 %	72199	48.24 %	109500	47.38 %
2041	49004	31.37 %	95696	32.54 %	144700	32.15 %

Source: Doomdooma master plan area population of 1991, 2001 and 2011 are from Census of India, Assam and 2021, 2031 and 2041 population figures estimated by Town & Country Planning, Dibrugarh.

Figure-15
Population projection of Doomdooma master plan area 1991-2041

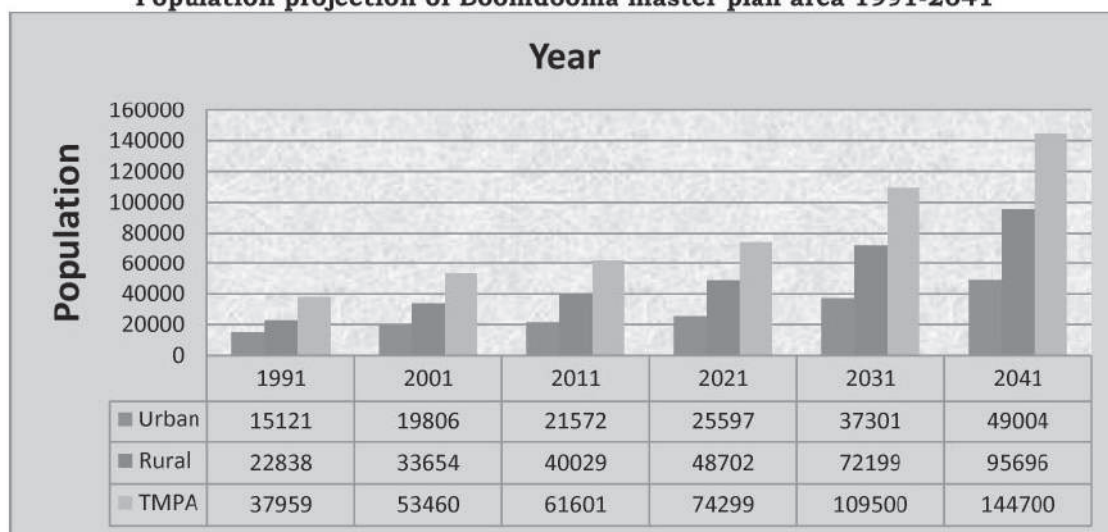


Figure-16
POPULATION PROJECTION (in %) of DOOMDOOMA MASTER PLAN AREA 2001-2041



CHAPTER -3

3. ECONOMIC BASE AND EMPLOYMENT

3.1 Formal Sector

Sector which encompasses all jobs with normal hours and regular wages and are recognized as income sources on which taxes must be paid are known as formal sector. In local terms, organised sector or formal sector in India refers to licensed organisations, that is, those who are registered. Only 6 (six) per cent of India's working population is part of the formal sector and the productivity in formal sector is high in comparison to informal sector and also offers higher wages to its employees.

Doomdooma Revenue Circle has the highest number of tea gardens in Assam. Bisakupi T.E., Badlabheta T.E., Daimukhiya T.E., Sakreting T.E., Hahsara T.E., produces export quality tea. In the adjacent of southern part of master plan boundary Hindustan Unilever Limited is situated. It provides an opportunity of employment to a large section of the population of nearby areas. Hindustan Unilever (earlier Hindustan Lever) Limited owns several Tea Gardens in and around Doomdooma apart from the personal care product factory, which was set up in 2001 availing benefits of North East Industrial Policy-1997 including excise duty exemption and capital subsidy. The factory produces personal-care products like skin care cream, body lotion, toothpaste, with an estimated workforce of about 850 people. Doomdooma factory of Hindustan Unilever Limited produces 30,000 metric tonnes of products per annum, accounting for about 35 percent of the company's total output of personal-care products in the country.



In Doomdooma there is a vast scope for establishing tea related ancillary industries due to the existence of large number of tea gardens and factories. As such this plan asked the Govt. for creation of a conducive atmosphere for optimum use of natural resources as well as tea products private sector and public-private partnership mode to build up a sound economic and industrial base in the town.



3.2 Informal Sector

The informal sector is that part of an economy which is neither taxed nor monitored by any form of government. Activities of the informal economy are not included in the GNP. The informal sector makes up a significant portion of the economies in poor state like Assam as well as Doomdooma region. The informal sector of Doomdooma region provides critical economic opportunities for the poor and has been expanding rapidly since the 1990s. The informal sector is largely characterised by several qualities such as Easy Entry, meaning anyone who wishes to join the sector can find some sort of work which will result in cash earnings, a small scale of operations and skills gained outside of a formal education. Most workers in the informal sector, even those are self-employed or wage workers, do not have access to secure work, benefits, welfare protection or representation. The most prevalent types of work in the informal economy are home based workers and street-vendors which are most common in DMPA. Home based workers are more numerous while street-vendors are most visible.

Doomdooma is mainly bounded by tea garden. Although the region is rich in forest resources these have not been exploited fully. There is a good scope for setting up of various wood based cottage industries like safety matches, tea chests, furniture and pre-fabricated housing units etc.

The industrial development targets as proposed above can be achieved through private sector & Governmental agencies by providing suitable industrial land with necessary infrastructure like roads, uninterrupted power, water and drainage and subsidy on power tariff, financial assistances in the form of soft loan etc. The present concept of public-private partnership (PPP) can also be adapted for faster and smooth development of industries.

Doomdooma town is the nerve centre of business & service of that area. People of nearby areas use to come here to sell their produce and to buy necessary goods for their domestic consumption. The orange production at

Philobari supplies to all over Assam from Doomdoooma. There are a number of markets in Doomdoooma, such as Doomdoooma Vegetable Market, Khan Market, Arandhara Complex, Goyal Towers, Agarwal and Kedia Market, etc. These markets will not only fulfil the demand for Doomdoooma and its suburbs but also supply the essential commodities to the people of border areas of Arunachal Pradesh. These markets have played an important role in the economic expansion of Doomdoooma town.

3.3 Occupational Pattern

Occupational structure depicts the characteristics of employment for livelihood of the people living in a particular planning area. The engagement of people in agriculture, trade, commerce, industry and white-collar jobs etc. is known as the occupation and employment character. Out of total population of 61601 in 2011 for the master plan area, the number of workers is 24639 persons. The percentage of working population in urban area is 34.31% and in rural area 43.06% in 2011. The percentage of working population in rural area is higher in comparison to urban area. The percentage of working population in the master plan area as a whole is 39.99% in 2011. The sector wise distribution of workers in the master plan area in 2011 is given below. Since Doomdoooma is known as a tea based town, in the map of India due to large number of tea estates and tea factories and it is also reflected in the occupational pattern of master plan area where almost 86.27% of population get their livelihood from tertiary sector (including tea plantation workers).

TABLE NO.-17

Sector wise distribution of workers in the master plan area in 2011

Sl.No.	Category	Urban Area		Rural Area		Doomdoooma Master Plan area	
		No. of workers	% of total Urban workers	No. of workers	% of total Rural workers	No. of workers	% of total TMPA workers
1	Primary Sector (Agriculture)	100	1.35	2633	15.28	2733	11.09
2	Secondary Sector (Household Industry)	245	3.31	405	2.35	650	2.64
3	Tertiary Sector (Others)	7057	95.34	14199	82.38	21256	86.27
	TOTAL	7402	100	17237	100	24639	100

Source:-Calculated by T&CP, Dibrugarh

FIGURE No. 17
Sector wise distribution of workers in the master plan area in 2011

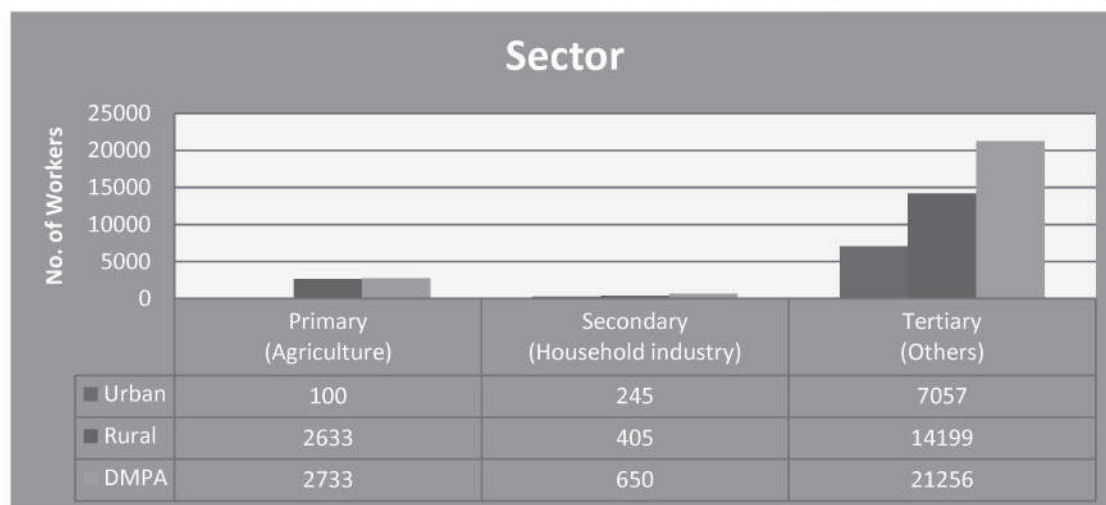
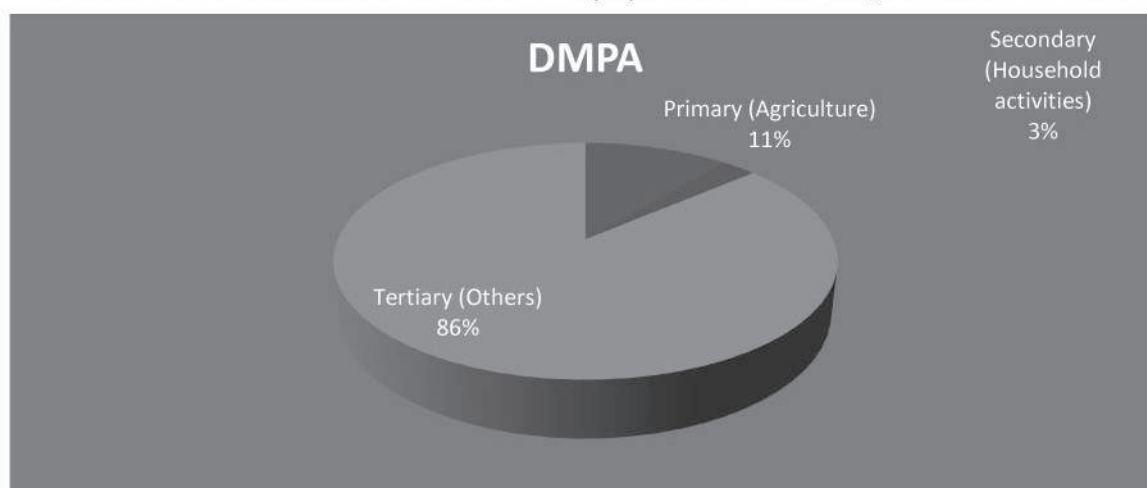


FIGURE No. 18
Sector wise distribution of workers(%) in the master plan area in 2011



Doomdooma is place of scenic beauty of nature with various beautiful tea gardens and pleasant weather attracts tourist to visit this place and as a result tourist sector is expanded. Expansion of micro, cottage and service industry in the town and as well as in the out skirts of the town also creates employment opportunities for many people. In view of the above, the question of livelihood can be separated on the following heads as mentioned below:-

- Engagement in agriculture and tea related activities.
- Engagement in industrial activities including micro and household industries.
- Engagement in trade and commerce.
- Serving as Govt. employee & private employee.

CHAPTER- 4**4. HOUSING AND SHELTER****4.1 Housing Scenario**

Housing is the basic need of the civilized living. Despite various efforts to solve the housing problem with various policies, there is a huge gap between the supply and the demand for the housing in Assam in general and Doomdooma town in particular. A section of population in Doomdooma either have no place to live in or living under highly unhygienic, inhuman condition and deprivations. Lack of privacy, absence of minimum basic amenities, use of substandard building materials and unhygienic surroundings dominates the scene of settlements. In Doomdooma, while the housing problem in the rural areas, by and large is qualitative in nature and the problem in the urban areas is largely quantitative. The uncontrolled growth of population in urban areas due to migration and other factors have created a high magnitude of housing and infrastructure problem. Due to migration of rural population to the town, available vacant spaces in the urban areas are slowly being converted to unplanned, unhygienic built up area. Moreover, cost of land in the urban area is also increasing. People in the low and middle income group even find it difficult to acquire the land at the present prevailing cost.

The housing pattern of Assam, including Doomdooma region have living habits of such a kind that is different from other states and region of the country. There is a general feeling in Doomdooma region that the basic problem is up gradation of existing units and there is very little need to be done to provide a roof for the utterly shelter less population as the category of such household is very negligible in the region.

An average household size in DMPA has 4.89 persons. The household size is higher in urban area (5.08 persons) as compared to rural areas (4.80 persons).

It is true that development of our country is dependent on the physical and mental health of the people. People who sleep on streets or who live in unhygienic houses cannot fully develop emotionally, intellectually, economically, culturally or as a family. In fact, inadequate and insecure shelter can lead to social and political instability which eventually hampers economic development of our country.

To address this problem, Government of India introduced a new Housing scheme in 2014 namely Pradhan Mantri Awas Yojana (housing for all by 2022). If this scheme does works it would at least help to reduce India's major contribution with one of the highest homeless populations in the world. Under the PMAY, the main proposal was to construct 20 million homes for those people belonging to the Low Income families and Economically Weaker Sections in the identified urban and semi – urban areas by 2022. Accordingly, Doomdooma Municipal Board is also working to provide houses to the poor as per guideline.

4.2 Housing Supply Mechanism

Housing supply is the main role of the State Government to improve living condition to the inhabitants either by directly providing houses or by financial assistance. The Government has adopted different policies to solve the housing problems especially for poor and low income group. However, housing supply must address all social groups in the state including housing in urban areas, semi-urban areas and rural areas. In the recent years private building's and developer's come forward to solve the problems of housing in urban areas of the state by constructing flat. Such practices have not been seen in Doomdooma recently. In the rural areas of master plan a few house has been constructed under centrally sponsored housing scheme. The plan recommends that State Housing Board or any other Govt. agency should come forward to build housing colonies at Doomdooma for all sections of people of the state considering its unique scenic beauty of tea gardens.

4.3 Housing Condition, Type of Structure etc.

The following table's shows the number and percentage distribution of population and household in respect of different living condition such as structure of house, source of lighting source of drinking water, type of fuel used for Cooking, Banking and Specified assets, Drainage connectivity and availability of kitchen.

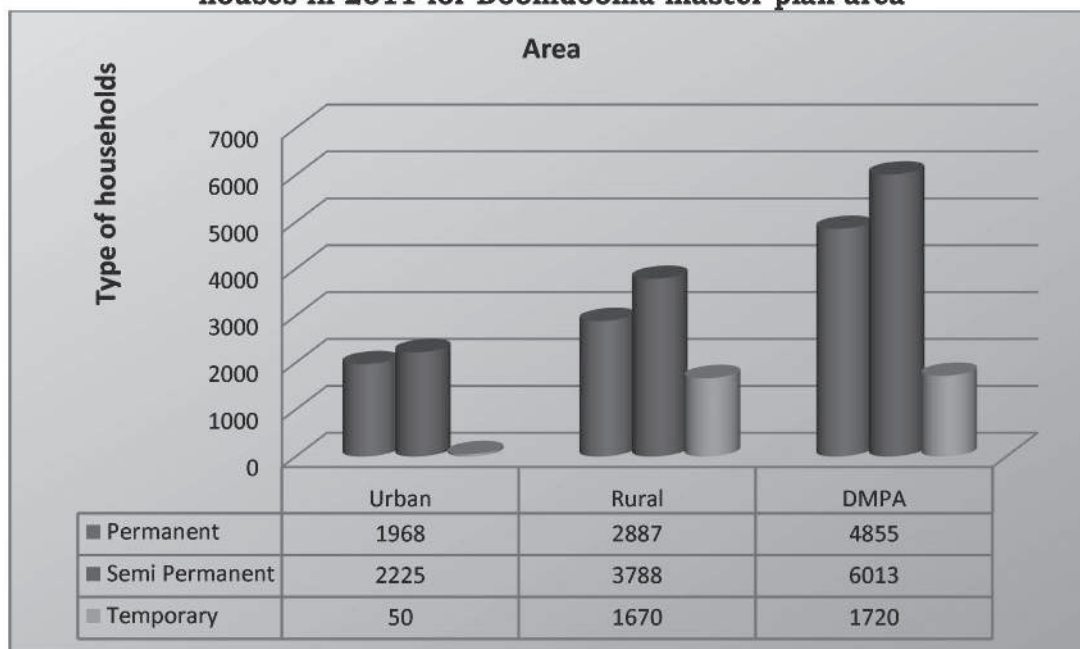
TABLE NO.18
Distribution of households living in permanent, semi-permanent and temporary houses in 2011 for Doomdooma master plan area

Name of Area	No. of Households	Permanent	Percentage	Semi-Permanent	Percentage	Temporary	Percentage
Urban	4243	1968	46.38	2225	52.44	50	1.18
Rural	8345	2887	34.60	3788	45.39	1670	20.01
DMPA	12588	4855	38.57	6013	47.77	1720	13.66

Source:- Census of India 2011

FIGURE NO.19

Distribution of households living in permanent, semi-permanent and temporary houses in 2011 for Doomdooma master plan area

**FIGURE NO.20**

Percentage Distribution of households living in permanent, semi-permanent and temporary houses in 2011 for Doomdooma master plan area

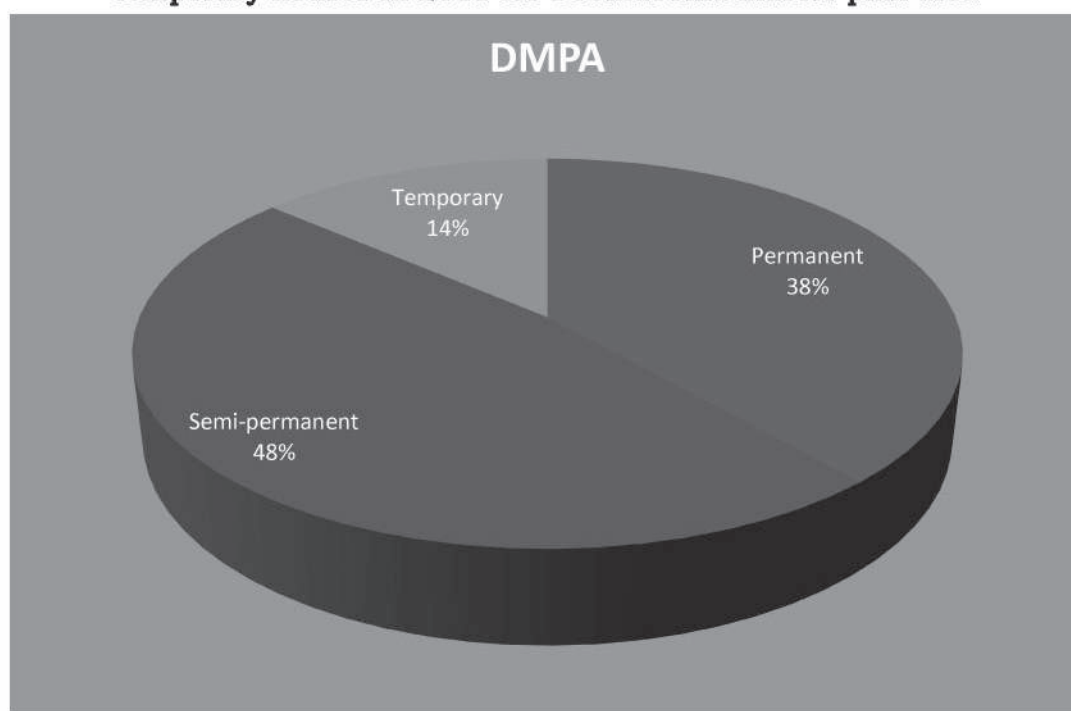


TABLE NO. 19
Number and % of households by main source of lighting in 2011 for Doomdooma Master Plan area

Source of lighting	Urban	Percentage	Rural	Percentage	DMPA	Percentage
Electricity	3513	82.80	4049	48.52	7562	60.07
Kerosene	717	16.90	4268	51.14	4985	39.60
Solar	2	0.05	8	0.10	10	0.08
Other Oil	2	0.05	4	0.05	6	0.05
Any other	5	0.12	6	0.07	11	0.09
No lighting	4	0.09	10	0.12	14	0.11
TOTAL	4243	100.00	8345	100.00	12588	100.00

Source:- Census of India 2011

FIGURE NO.21
Number of households by main source of lighting in 2011 for Doomdooma Master Plan area

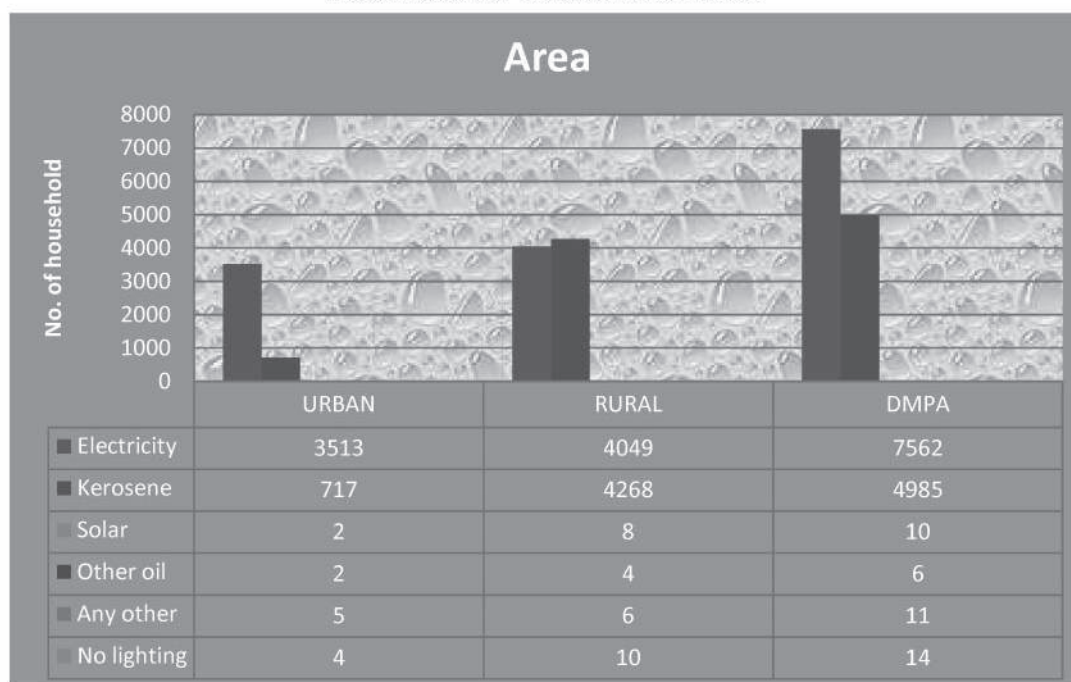


TABLE NO. 20
Number and percentage of households by main source of drinking water in 2011
for Doomdooma Master Plan

Source of drinking water	Urban	Percentage	Rural	Percentage	DMPA	Percentage
Tap water from treated source	226	5.33	169	2.03	395	3.14
Tap water from untreated source	112	2.64	46	0.55	158	1.26
Covered well	4	0.09	28	0.34	32	0.25
Uncovered well	3	0.07	67	0.80	70	0.56
Hand pump	2452	57.79	6079	72.85	8531	67.77
Tubewell / borehole	1393	32.83	1833	21.97	3226	25.63
River/Canal	8	0.19	28	0.34	36	0.29
Tank/Pond	2	0.05	32	0.38	34	0.27
Other sources	43	1.01	63	0.75	106	0.84
TOTAL	4243	100.00	8345	100.00	12588	100.00

Source:- Census of India 2011

FIGURE NO. 22
Number of households by main source of drinking water in 2011 for Doomdooma Master Plan

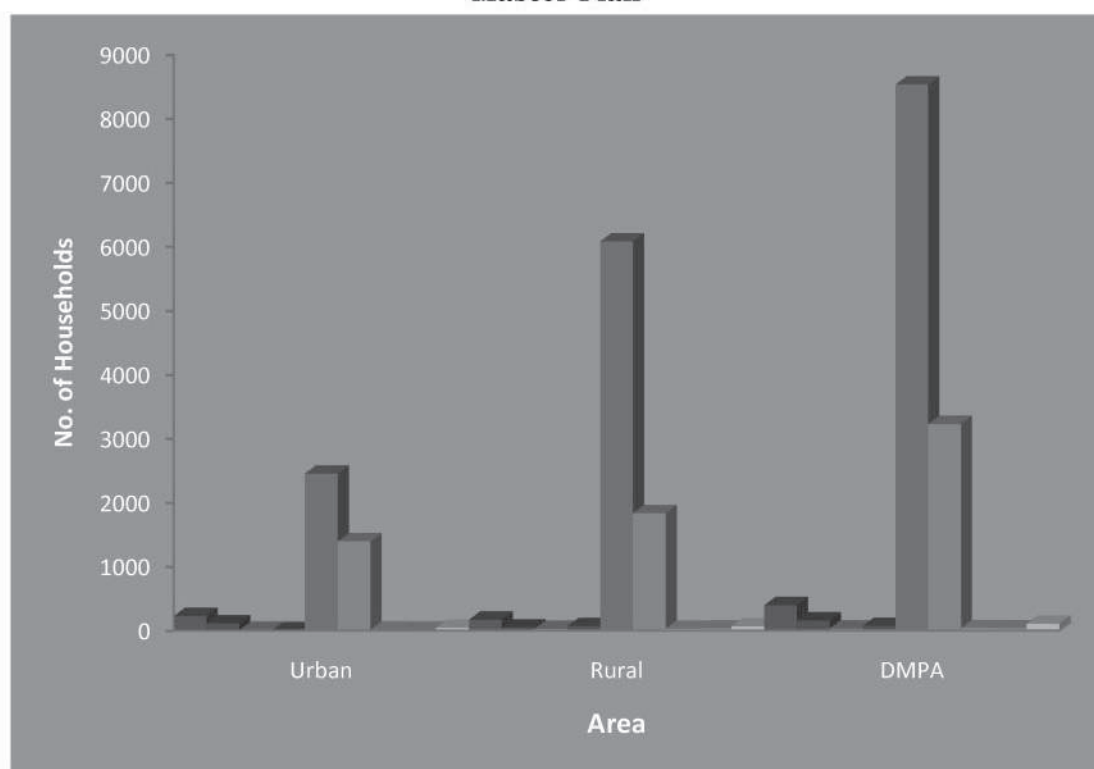
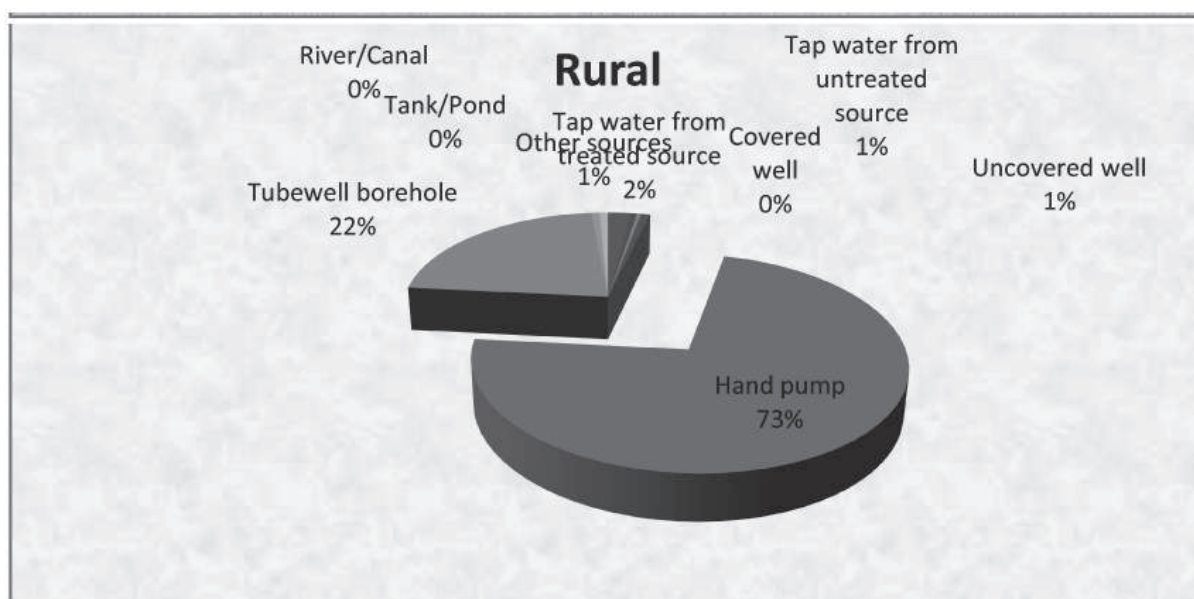
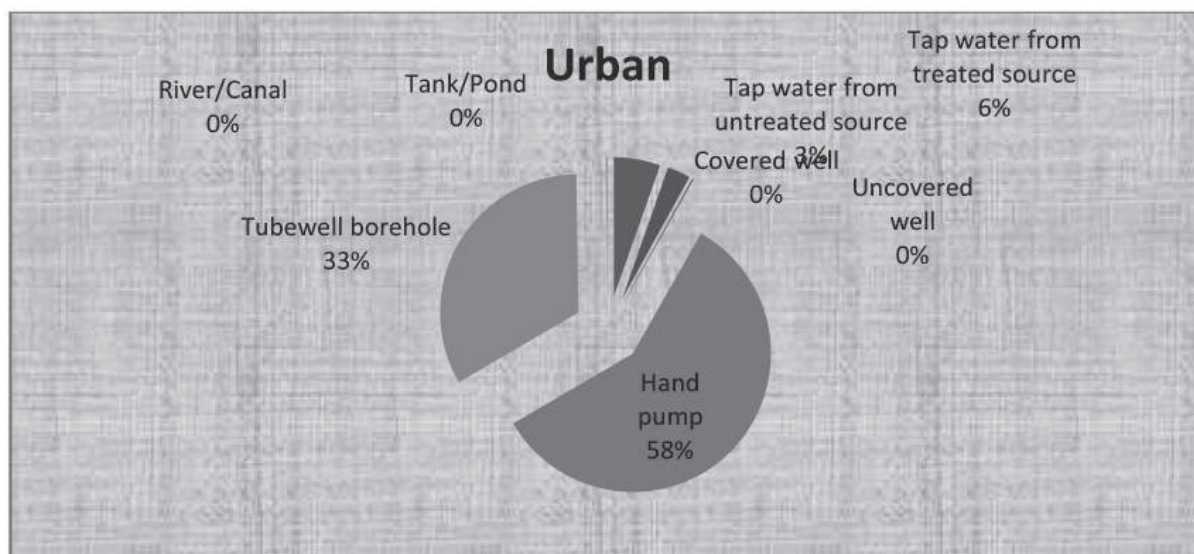


FIGURE NO. 23
Percentage of households by main source of drinking water in 2011
for Urban, Rural and Doomdooma Master Plan



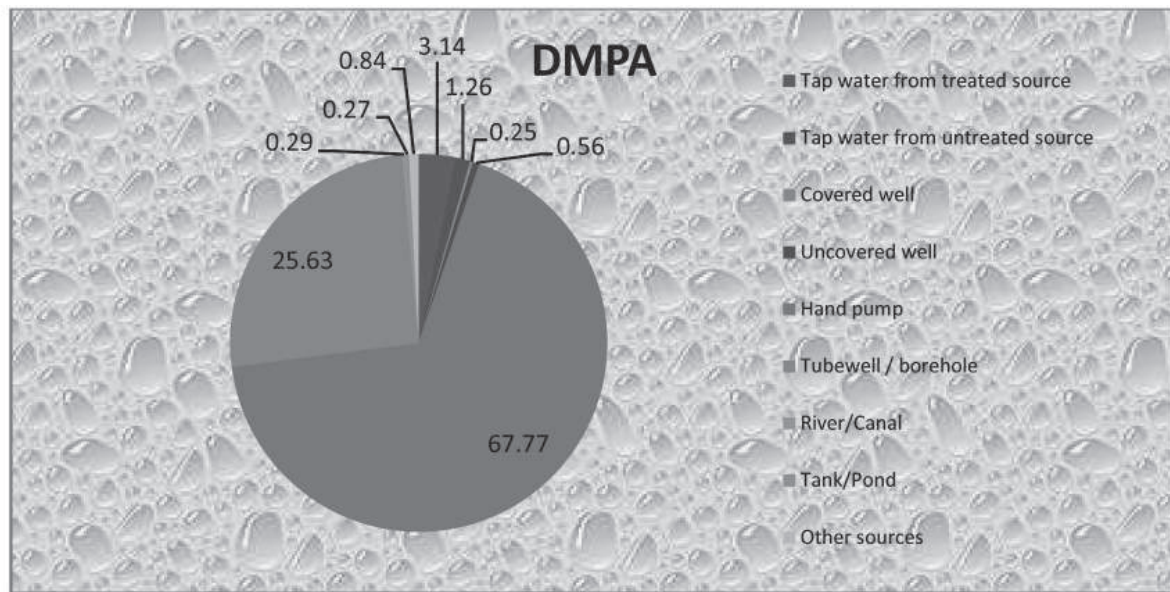


TABLE NO. 21
Number and percentage of households by type of fuel for cooking in 2011 for
Doomdooma Master Plan

Type of Fuel used for cooking	Urban	Percentage	Rural	Percentage	Total	Percentage
Firewood	1179	27.79	7238	86.73	8417	66.87
Crop residue	42	0.99	74	0.89	116	0.92
Kerosene	249	5.87	16	0.19	265	2.11
LPG/PNG	2734	64.44	986	11.82	3720	29.55
Any other	21	0.49	21	0.25	42	0.33
No cooking	18	0.42	10	0.12	28	0.22
TOTAL	4243	100	8345	100	12588	100

Source:- Census of India 2011

FIGURE NO. 24
Type of fuel for cooking in 2011

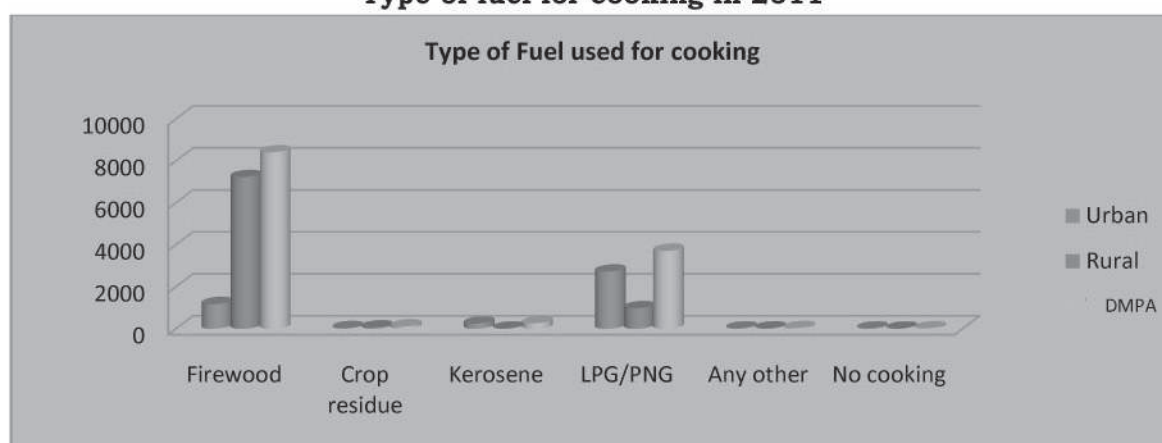


FIGURE NO. 25
Type of fuel for cooking in 2011 (%)

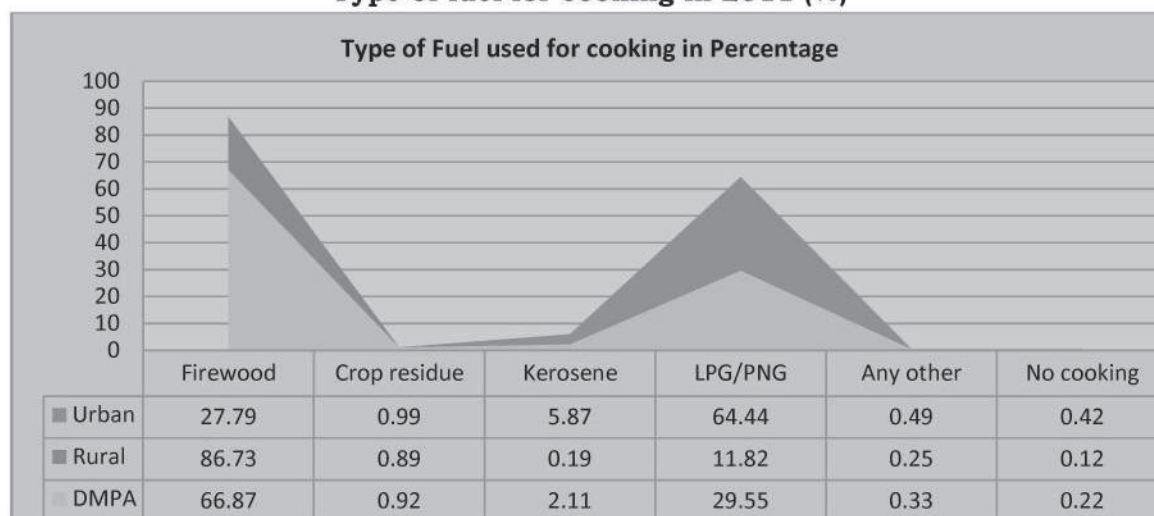


TABLE NO.-22

Number and percentage of households availing banking services and number of households having each of the specified assets in 2011 for Doomdooma Master Plan

Banking services and specified assets	Urban	Percentage	Rural	Percentage	Total	Percentage
Total number of households availing banking services	2841	66.96	2943	35.27	5784	45.95
Radio/ Transistor	517	12.18	1613	19.33	2130	16.92
Television	2661	62.72	2461	29.49	5122	40.69
Computer/ Laptop	639	15.06	548	6.57	1187	9.43
Landline telephone	98	2.31	99	1.19	197	1.56
Mobile telephone	3107	73.23	2346	28.11	5453	43.32
Bicycle	2743	64.65	5353	64.15	8096	64.32
Scooter / Motorcycle/ Moped	1015	23.92	669	8.02	1684	13.38
Car/Jeep/ Van	234	5.51	231	2.77	465	3.69
None of the specified assets	409	9.64	1987	23.81	2396	19.03

Source:- Census of India 2011

Figure No-26

Number of households availing banking services and number of households having each of the specified assets in 2011 for Doomdooma Master Plan

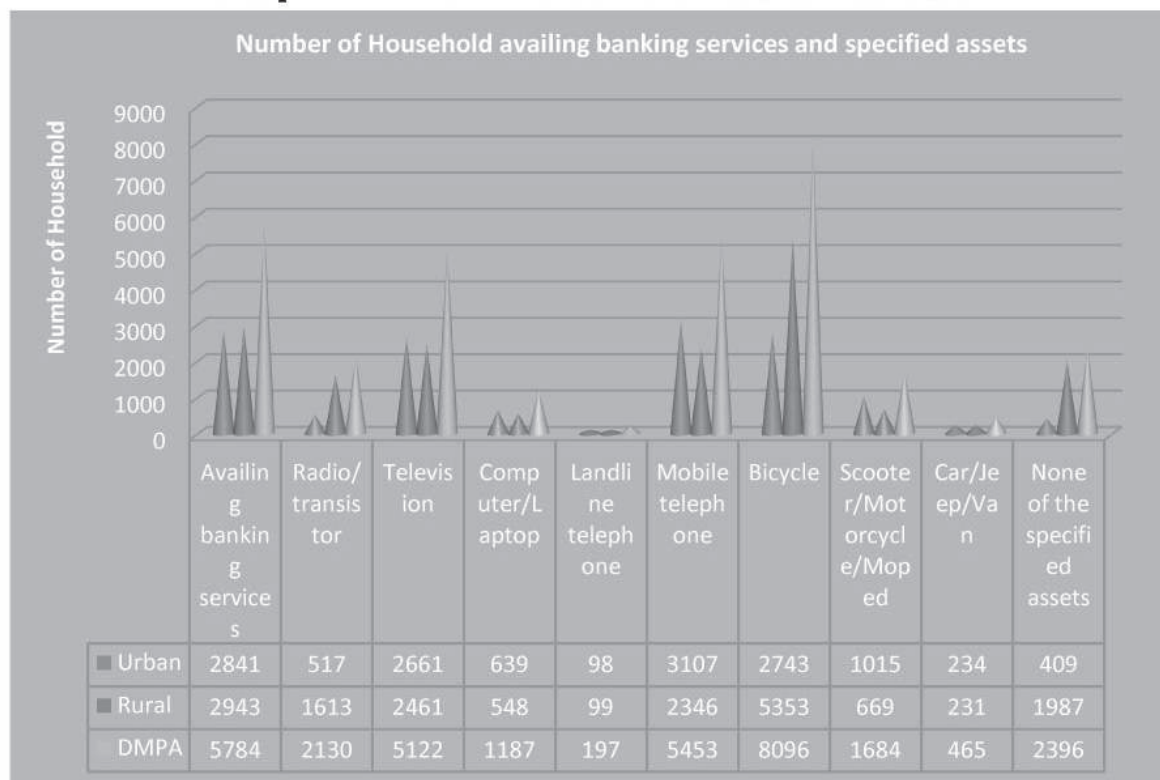


TABLE NO. 23
Number and % of households by type of drainage connectivity
for waste water outlet in 2011 for Doomdooma Master Plan area

Type of Drain	Urban	Percentage	Rural	Percentage	Total	Percentage
Closed drainage	620	14.61	173	2.07	793	6.30
Open drainage	1850	43.60	2228	26.70	4078	32.40
No drainage	1773	41.79	5944	71.23	7717	61.30
TOTAL	4243	100	8345	100	12588	100

Source:- Census of India 2011

FIGURE NO.27
Percentage of households by type of drainage connectivity
for waste water outlet in 2011 for Doomdooma Master Plan area

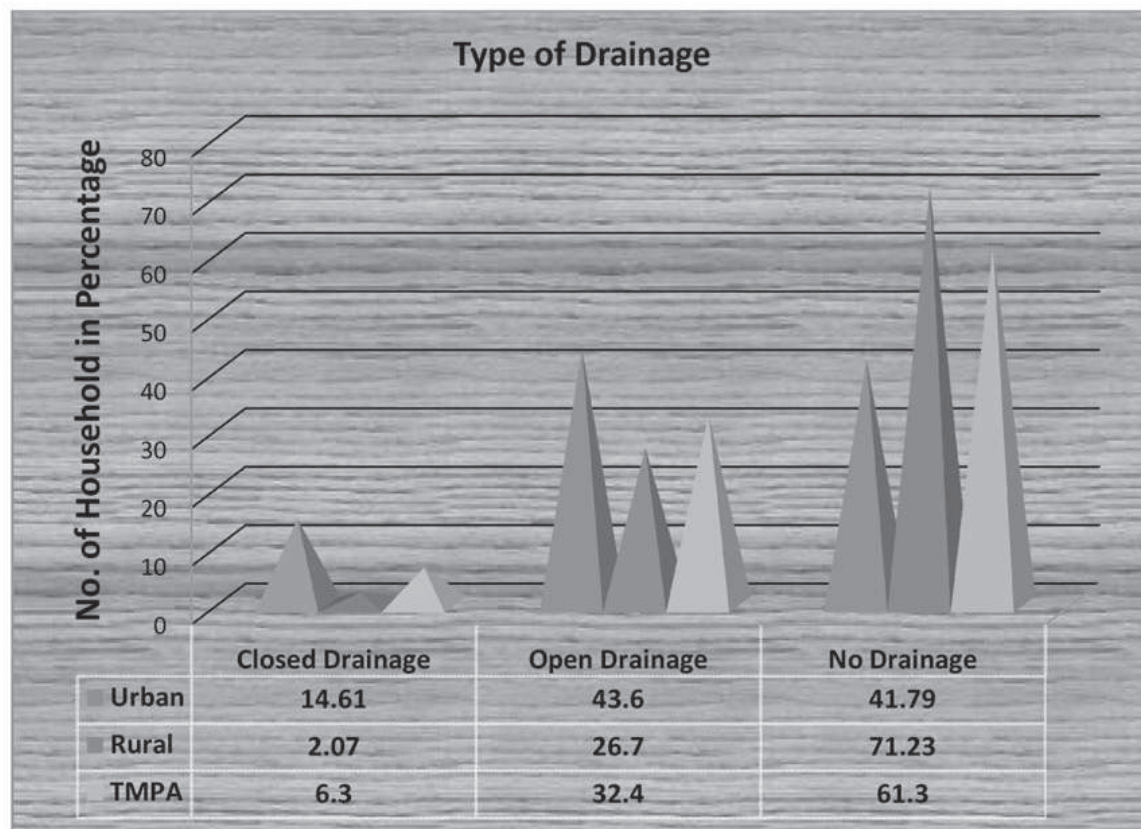


TABLE NO.-24
Number and % of households by availability of kitchen facility in 2011
for Doomdooma Master Plan area

Cooking pattern		Urban	Percentage	Rural	Percentage	DMPA	Percentage
Cooking inside house	Has kitchen	3602	84.89	7033	84.28	10635	84.49
	Doesn't have kitchen	518	12.21	758	9.08	1276	10.14
Cooking outside house	Has kitchen	77	1.81	374	4.48	451	3.58
	Doesn't have kitchen	28	0.66	169	2.03	197	1.56
No cooking		18	0.42	11	0.13	29	0.23
TOTAL		4243	100	8345	100	12588	100

Source:- Census of India 2011

FIGURE NO.-28
Number of households cooking inside house in DMPA in 2011

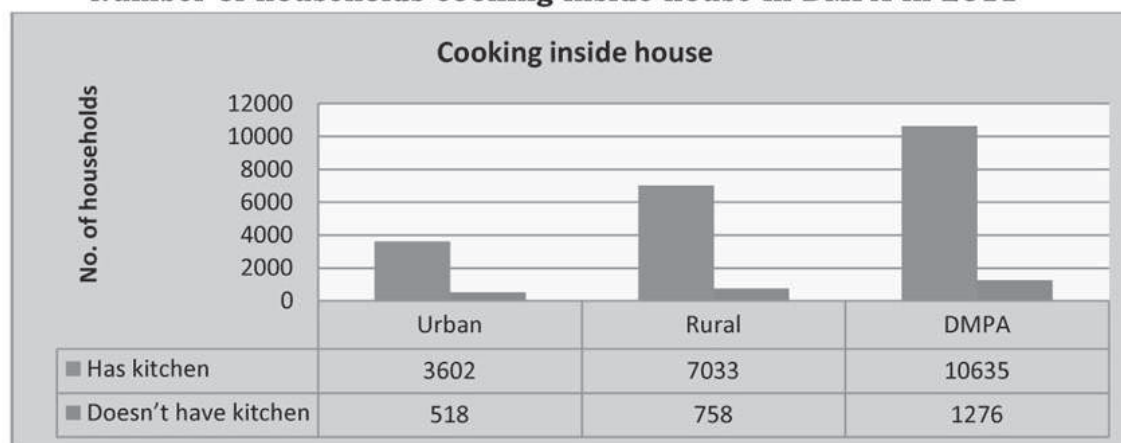
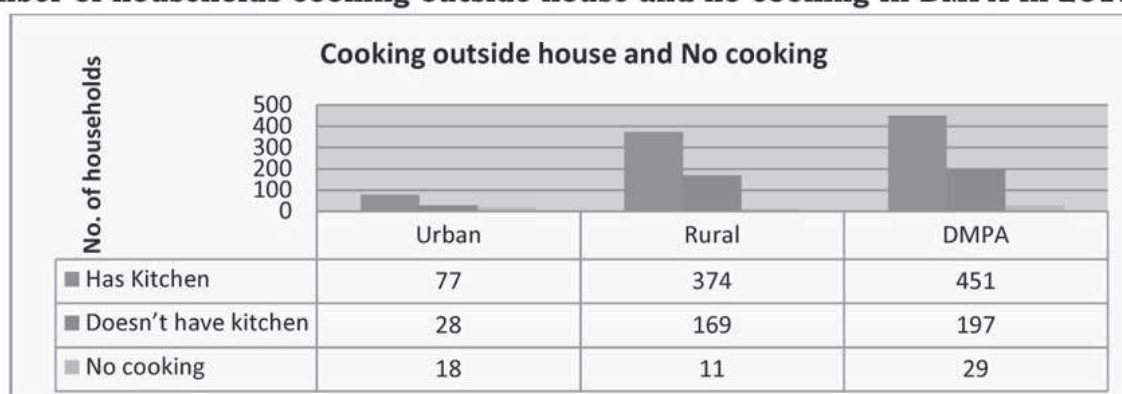


FIGURE NO.-29
Number of households cooking outside house and no cooking in DMPA in 2011



4.4 Slum-Squatters and informal housing share :

Urbanization can be defined as a process which reveals itself through temporal, spatial and sectoral changes in the demographic, social, economic technological and environmental aspects of life in a given society. Urbanization is a progressive concentration of population in urban unit. Urbanization is a process experienced in economically advanced as well as developing countries, cities and towns as centres of agglomeration, with fast economic growth and tertiary job opportunities. In developing countries the rate of urbanization is very fast and it is not accompanied by industrialization but by the rapid growth of service sector in the economies. During the last three decades, rapid urbanization has been one of the most crucial socio- economic changes of our societies. As population grows more and more, people move into the cities in search of a better life, causing more housing shortage, paucity of civic amenities leading to poverty and in the process creating bigger slums in cities.

But even where urbanization is still low, people are moving to towns and cities. The new arrivals and many long term residents too are crowded together in over populated houses, dismal tenements and teeming slums. With the growth of cities, the cost of housing and infrastructure is increasing on the one hand and lack of affordable housing facility on the other hand. These have often forced the urban poor to rely on or create their own informal infrastructure, giving way to dramatic growth of slums in urban centres.

Urbanization might also force some people to live in slums when it influences land use by transforming agriculture land into under areas and increase the land value. During the process of urbanization, some agriculture land was used for additional urban activities. That is why as urbanization grows slums also grow in India as well as Assam at a faster rate. As an observation, most of the small Indian towns are much congested and unhygienic although their effect on an individual is mitigated by the openness of the environment.

As per information received from Doomdooma Municipal Board, there is no notified slum pockets in the municipal area, inspite of that there is an every possibility of the creation of slum in the town near future due to the increase of the population and industrialization and as such it is necessary for the concern authority to stop such informal habitat in future.

4.5 Housing Stock, Shortage and Need Assessment

There are about 4243 nos. of houses within urban area and 8345 nos. of houses in rural area of Doomdooma master plan in the year 2011. As a whole in master plan area the number of households are 12588 nos. Since there are 61601 persons in DMPA in the year 2011 and the above housing figure shows that an average of 4.89 persons per household.

To find out the housing requirement for future, a detailed study of family size level of obsolescence, existing shortage etc. are necessary. However, on the

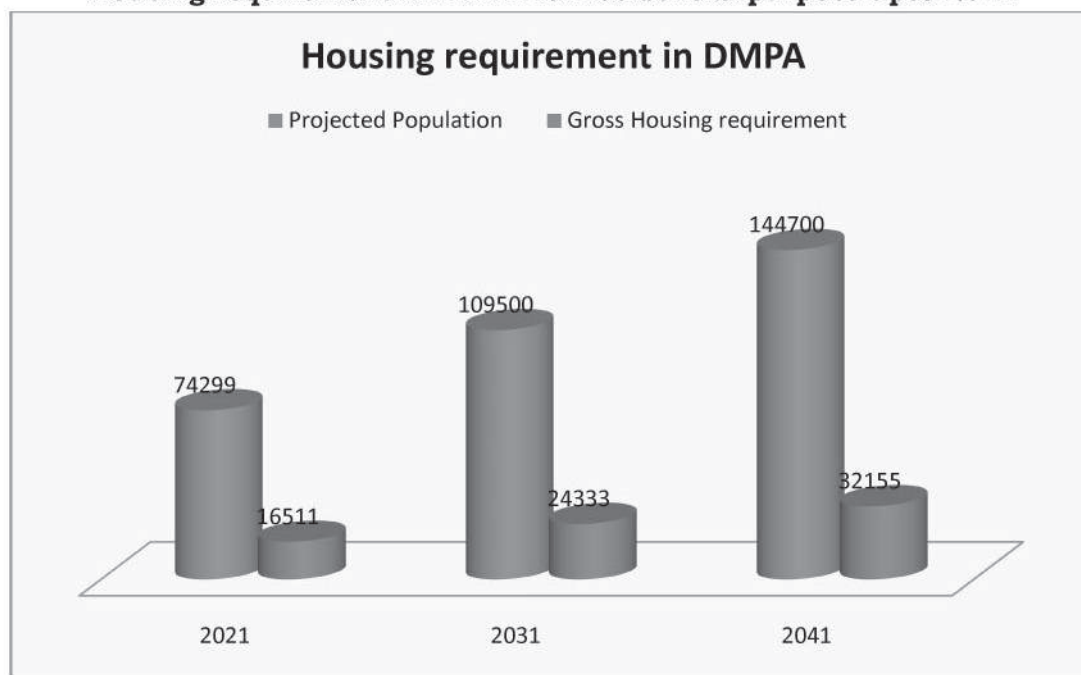
basis of projected population and household size of 4.5 persons the gross housing need is assessed below :

TABLE No-25
Housing requirement in DMPA for residential purpose upto 2041

Year	Projected Population	Gross Housing requirement
2021	74299	16511
2031	109500	24333
2041	144700	32155

Source:-Calculated by TCP, Dibrugarh

FIGURE No.30
Housing requirement in DMPA for residential purpose upto 2041



Since 12588 nos. of houses have been used for residential purposes in 2011 in Doomdooma master plan area and the above table reveals that gross housing requirement in the year 2021 was 16511 no. of houses. As such, in the year 2021 itself the additional requirement of housing for the population of 74299 was 3923 nos. of houses.

CHAPTER-5**5 TRANSPORTATION****5.1 Network of Roads**

Urban road network is considered as engines of economic growth. In some areas of the town the road width is not sufficient and well equipped. Doomdooa Gandhi Chowk level crossing towards Doomdooa market is very narrow and remains always busy and requires immediate improvement. The roads within the residential areas in Doomdooa Municipal Board area are too narrow. Widening of these roads is urgently necessary.

For smooth traffic movement in Doomdooa master plan area the plan provides 271

hectares of land, which constitute 4.98 % of the master plan area and 11.55 % of total developed area for circulation purposes. In this



plan, emphasis has been given on the following aspects for effective transportation system in Doomdooa master plan area.

- (i) Optimum use of the existing transportation system through improved traffic operation and controls.
- (ii) Improvement of the existing road network through strengthening and widening.
- (iii) Improvement of Railway level crossing.
- (iv) Improvement of old A.T. Road and bridge.
- (v) Provision for adequate parking facilities.
- (vi) Development of new roads and other transport facilities.

The plan recommends development of road infrastructure as per table given below:

TABLE NO:-26
CATEGORY OF ROADS

Category of roads	Name	Recommended width (in feet)
Major	Assam Trunk Road (NH-15)	70-80
	NH-115	70-80
Arterial	Doomdooma-Tingrai Road	40-50
	Philobari Road	40-50
	Doomdooma-Baghjan Road	40-50
Sub- Arterial	Milan Tirtha Road	30-35
	Doomdooma College Road	30-35
	Gyanjyoti Road	30-35
	Netaji Road	25-30
	Ram Bachan Singh Road	25-30
	GNB Road	30-35
	Azad Road	25-30
	Kalibari Road	25-30
	Old A.T. Road	30-35
Other Road	--	Min 20 & 12 for single plot

Source:-Prop. By T&CP, Dibrugarh

5.2 Overview of Critical Roads and Improvements

Doomdooma is well connected with the rest of the country by roads and railways. The N.H.- 15 and NH-115 have connected Doomdooma with other places as shown below: -

- a) Doomdooma to Tinsukia
- b) Doomdooma to Chapakhowa via Talap
- c) Doomdooma to Roing via Chapakhowa
- d) Doomdooma to Dibrugarh via Tinsukia
- e) Doomdooma to Namsai via Kakopothar

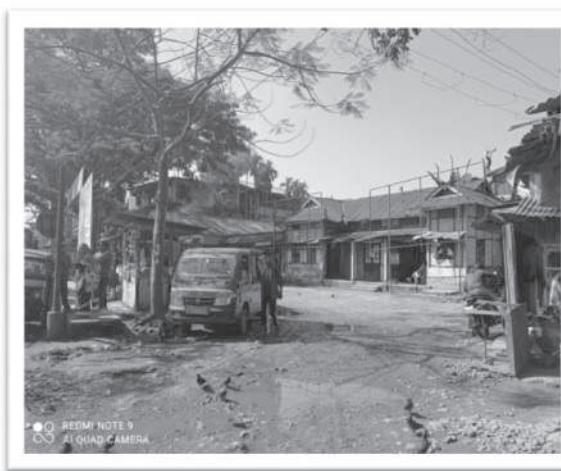
Doomdooma is also connected with railway network from Dangori to Tinsukia. Beside train plying of taxis, buses, winger and trucks are playing a major role in transporting passengers and goods to and from Doomdooma.

Doomdooma town has gained importance in the field of tea-industry and business owing to tea and other industries and existence of vegetables and fruits in nearby areas. This has resulted in to increase of vehicles on the roads of Doomdooma town. On the other hand, a good number of ASTC buses, private buses and winger ply through the town. The buses and small vehicles plying through Doomdooma town follow the following routes:

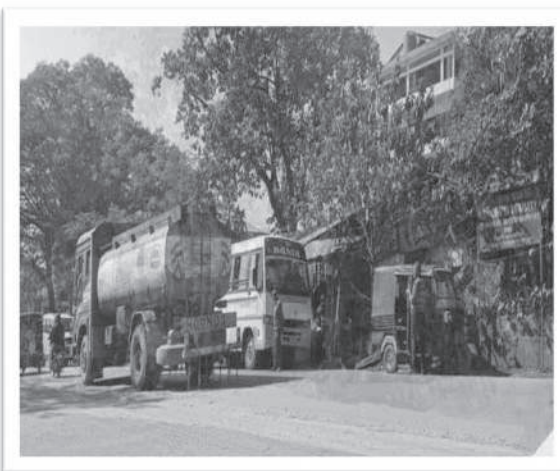
- a) Roing of Arunachal Pradesh to Tinsukia, Dibrugarh via Doomdoooma.
- b) Namsai to Tinsukia-Dibrugarh via Doomdoooma.
- c) Doomdoooma to Guwahati via Tinsukia (night service)

5.3 Bus Transport Terminals

At present ASTC bus station is located along the road side of N.H-15 near the junction of NH-15 and Doomdoooma market. There is no organized public bus stand in Doomdoooma. Generally public buses stop at the side of NH-15. These stations serve intra - urban traffic, i.e. regional traffic but create lots of traffic congestion in the area.



ASTC bus stand



Public bus stoppage

At present 1 Auto stand is located near the DoomdooomaBaghjaan road by the side of NH-15 and another at Gandhi Chowk. This stand is also creating congestion and obstruction to the smooth flow of traffic.



In Doomdoooma town the surface condition of the road is not up to the mark. The roads appear to be incapable of taking additional traffic load. Access roads are narrow with poor surface. Most of the traffic is generated from Doomdoooma river bridge to the point of Rupai Siding and another traffic

generated from Gandhi Chowk to Philobari road via Doomdoooma market. But the entire area does not have organized parking space.

Keeping in view the above, the plan recommends expansion and renovation of the existing A.S.T.C. Bus station and public bus stands.

The plan suggests to shift the existing Auto stand located near Gandhi Chowk to near DoomdooomaBaghjan road to reduce the traffic congestion in the area.

5.4 Freight Zones Logistics

Presently there is no truck terminus at Doomdoooma. So the plan proposes one truck terminus at Hahsara 15/12 NLR by the side of NH-15.

5.5 Footpaths and Bicycle Tracks

Footpaths are normally designed for pedestrian for pleasant and comfortable walking. In Doomdoooma except in market area, there is no any footpath in other roads of the town. There is no cycle track in the town.

Exclusive lane for slow moving vehicles, pedestrians along with spaces for street vendors are also essential for overall development of a town. The hawkers and street vendors also play an important role in urban economy. The notification of vending and no vending zone by the authority is mandatory as per the provisions of the Street Vendors Act, 2014. This improves the capacity of the lanes designed for motorized vehicles and increases the safety of slow moving vehicles and pedestrians.

The plan suggest construction of footpath in both sides of all the roads in the town by the concerned authority. The plan also earmarks cycle track in NH-15 from Rupai-Siding to Athengia village .

The width of footpath as per URDPFI guidelines is follows:

TABLE NO:-27
WIDTH OF FOOTPATH

Sl. no.	Description	Width(mtr)
1	Minimum free walkway width in residential/mixed use areas	1.8
2	Commercial/Mixed Use Areas	2.5

The URDPFI Guideline for cycle /NMT track are given in the following table:

TABLE NO:- 28
CYCLE TRACK

Sl. No.	Arterial Roads	SUB Arterial Roads	Distributary Road	Access Roads
Non-Motorized Vehicle	Segregated cycle track	Segregated cycle track	Cycle lane	Mixed/traffic
Location	Between carriageway or street parking and footpath on either edge of the carriageway	Between carriageway or street parking and footpath on either edge of the carriageway	On the edge of the carriage ,adjacent to the footpath or parking	Not applicable
Gradient	1:12-1:20	1:12-1:20	1:12-1:20	1:12-1:20
Lane width	2.2 to 5.0m	2.2 to 5.0m	2.2 to 5.0m	Mixed with motorized vehicular traffic
Minimum width	2.5 for a two lane cycle track and 1.9m for a common cycle track and footpath	2.0 for a two lane cycle track and 1.7m for a common cycle track and footpath	1.5m	1m(painted)

5.6 Parking

At present, there is no organized parking space for the cars, two wheelers in the market area. The cars are generally parked on the main road of the town. The roads are already overcrowded with traffic and further encroachment on road surface by cars and two wheelers has resulted obstructed traffic congestion.

The recommended equivalent car space(ECS) required for different type of vehicles as per **URDPFI** guidelines are given in the following table for design of parking areas.

TABLE NO:-29
PARKING SPACE

Sl. no.	Vehicle type	ECS
1	Car /taxi	1.00
2	Two Wheeler	0.25
3	Auto Rickshaw	0.50
4	Bicycle	0.10
5	Trucks/Buses	2.5
6	Emergency Vehicles	2.5
7	Rickshaw	0.8

5.7 Areas with Major Traffic congestion & Parking issues, Accident prone area

The maximum inter -town traffic volume is generated on the road starting from Doomdooma river bridge and moving towards Talap and towards Philobari road. This is the most vital link for the town. The second inter town traffic generating road is Rupai-Siding towards Kakopothar.

The presence mixed traffic on narrow roads has accelerated traffic congestion in Gandhi Chowk, and in Doomdooma market. The town has mainly two accident prone areas, namely the junction point of NH-15 and Doomdooma market near Gandhi Chowk and another at the junction point of NH-15 and NH-115 in Rupai-Siding. Proper road signage and marking in the road in these areas is the need of the hour.

5.8 Improvement of Rotary & Junctions

Improvement of all road junctions as per IRC guidelines is urgent and important for improving the traffic scenario. For smooth traffic in NH-15 and roads leading towards Doomdooma market, this plan proposes a T-type fly-over at the junction point of NH-15 and Doomdooma market.

5.9 Signage, Availability & Requirement

The ULB, traffic & other concerned departments will assess the requirement of Signage and accordingly install the signage as per the rules and regulations for the beautification of the town as well as smooth flow of traffic and public convenience.

5.10 Major Proposals

- I. One truck stand is proposed at Hahsara 15/12 NLR and the area is earmarked in the proposed land use map.
- II. The authority concern may develop existing ASTC bus stand with all facilities required for commuters.
- III. This plan proposes a T-type fly-over at the junction point of NH-15 and Doomdooma market.
- IV. Considering the scenic beauty of the town, the plan recommends plantation along the major roads and development of traffic points to augment the aesthetic beauty of the town.
- V. This plan proposes a cycle track in NH-15 from Rupai-Siding to Athengia village.

CHAPTER 6**6 INFRASTRUCTURE, PUBLIC UTILITY & SERVICES****6.1 Physical Infrastructure****6.1.1 Water Supply**

For the rest of the town and rural areas, the only source of water is tube well and the ring wells as ground water and surface water is readily available at Doomdooa and its adjoining areas. Though the tube well and ring well are efficiently functioning, it will no longer be considered as free from contamination due to presence of a number of pit latrines. A comprehensive water supply scheme with treatment plant covering the population up to 2041 is the need of the hour.

The objective of a public protected water supply system is to supply safe and clean water in adequate quantity, conveniently and as economically as possible. Rising demand of water due to rapid urbanization is putting enormous stress while planning the water supply system for an area; it is evident to consider water conservation aspects, which may be possible through optimal use of available water resources, prevention and control of water and effective demand management.



Doomdooa town (2 No. Mandal) Water Supply Scheme

6.1.2 URDPFI Guideline's for Water Requirement

As per URDPFI guidelines the norms for water requirement for institutional buildings are given below:-

TABLE NO-30
REQUIREMENT FOR INSTITUTIONAL BUILDINGS

Sl.No.	Institutions	Litters per head per day
1.	Hospitals (including laundry)	
a)	No. of beds exceeding 100	450 (per bed)
b)	No. of beds not exceeding 1000	350 (per bed)
2.	Hotels	180 (per bed)
3.	Hostels	135
4	Boarding Schools	135
5	Restaurants	70 (per seat)
6	Day school / colleges	45
7	Offices	45
8	Cinema, concert halls and theatre	45

In addition to the above the fire- fighting water demand is also as a function of population. It is desirable that one-third of fire fighting requirements from part of the service storage. The balance requirement may be distributed to

several state tanks of strategic points. These strategic points may be filled from nearby pond streams or cannels by water tanker's wherever feasible.

The plan also recommends preparation of a comprehensive potable water supply scheme as per guideline of CPHEEO manual of Govt. of India to cater the needs of the estimated population of 144700 up to 2041 by a competent authority.

6.1.3 Drainage system

The drainage system differs in Doomdoooma Municipal Board area and rural areas within master plan. The drainage system in Doomdoooma municipal area is relatively good condition as compared to rural areas.



Covered Drain

The existing natural drains of master plan area are not properly defined and are slowly being encroached by the growing population. The existing drainage of these areas does not have a proper slope resulting in water logging at different areas during rainy season. Most of the drains in rural areas of master plan are kutchra drains and not link up with natural channels and also do not have sufficient cross section to drain out surface water after heavy shower. As such, it is an urgent necessity of Doomdoooma Municipal Board and concerned authorities to construct few drains at certain location of the town and in rural areas to drain out storm water. It is also important on the part of DMB for the development of the existing natural stream which is running through the town for removing the water logging problem in the town as well as in residential areas. The existing infrastructure conditions of the town reveals that the priority of the town is an efficient storm water drainage system where by storm water that accumulates within the populous localities and commercial areas and drained out through scientifically designed storm water drainage system. This plan also recommends hierarchy of drainage system for the entire master plan

area because almost 61.30% households in the master plan area still not connected with the drainage system. As such, it is necessary to prepare a Drainage master plan for Doomdoooma by the concerned authority to solve the problem of storm water and water-logging in the town and its adjoining areas.



6.1.4 Sanitation

In Doomdoooma urban area almost 41.98% household use septic tank and in rural area only 12.41% households use septic tank in 2011. In the Master Plan area as a whole the percentage of households use septic tank are 22.38%. In the Master Plan Area, almost 31.97% household use pit latrine without slab which are not conducive for health and environment. This type of condition is prevailed in all over India. As such, The Government of India in the year 2014 introduced the Swachh Bharat Mission (SBM) which is being implemented by the Ministry of Urban development and Ministry of Drinking and sanitation for urban and rural areas respectively. The main objective of the mission is – Elimination of open defecation, Eradication of manual scavenging, Modern and scientific Municipal Solid Waste Management, to effect behavioural changed regarding healthy sanitation practices, generate awareness about sanitation and its linkage with public health, capacity Augmentation for ULB's.

Swachh Bharat Mission (SBM) will improve the health conditions of every Indians. This practice will be able to prevent many types of diseases in the country and we will be able to have a happy and healthy society. SBM can be able to build a better eco-friendly environment in the country and can give better life to our upcoming generations.

SBM will also help in generating employment through tourism and boos India's Gross Domestic Product (GDP).

Unhygienic condition's is one of the major root courses of diseases/illness. Any disease or illness has financial impact both in terms of expenditure and potential revenue earning. As such, SBM will have positive impact on India's health care sector. SBM will plug the loss due to unhygienic and lacks of cleanliness and will help to case burden on existing health care facilities.

SBM will lead to Health India which in turn increases productivity of Indians. High productivity means high earning potential. Under current

economic conditions, India desperately need Foreign Direct Investment (FDI) for this the country must be clean.

SBM will benefit socially and financially each & every citizen of India. If we want financial growth then we have to collectively make SBM a roaring success in future. SBM is one of the critical links towards economic success of India.

Under SBM it is estimated that about 20% of the urban household in towns, who are currently practicing open defecation are likely to use community toilets as a solution due to land and space constraints in constructing individual household latrines. For this component beneficiaries shall be groups of household in urban area whose members practice open defecation and who do not have access of two household toilets and for whom the construction of individual household toilet is not feasible.

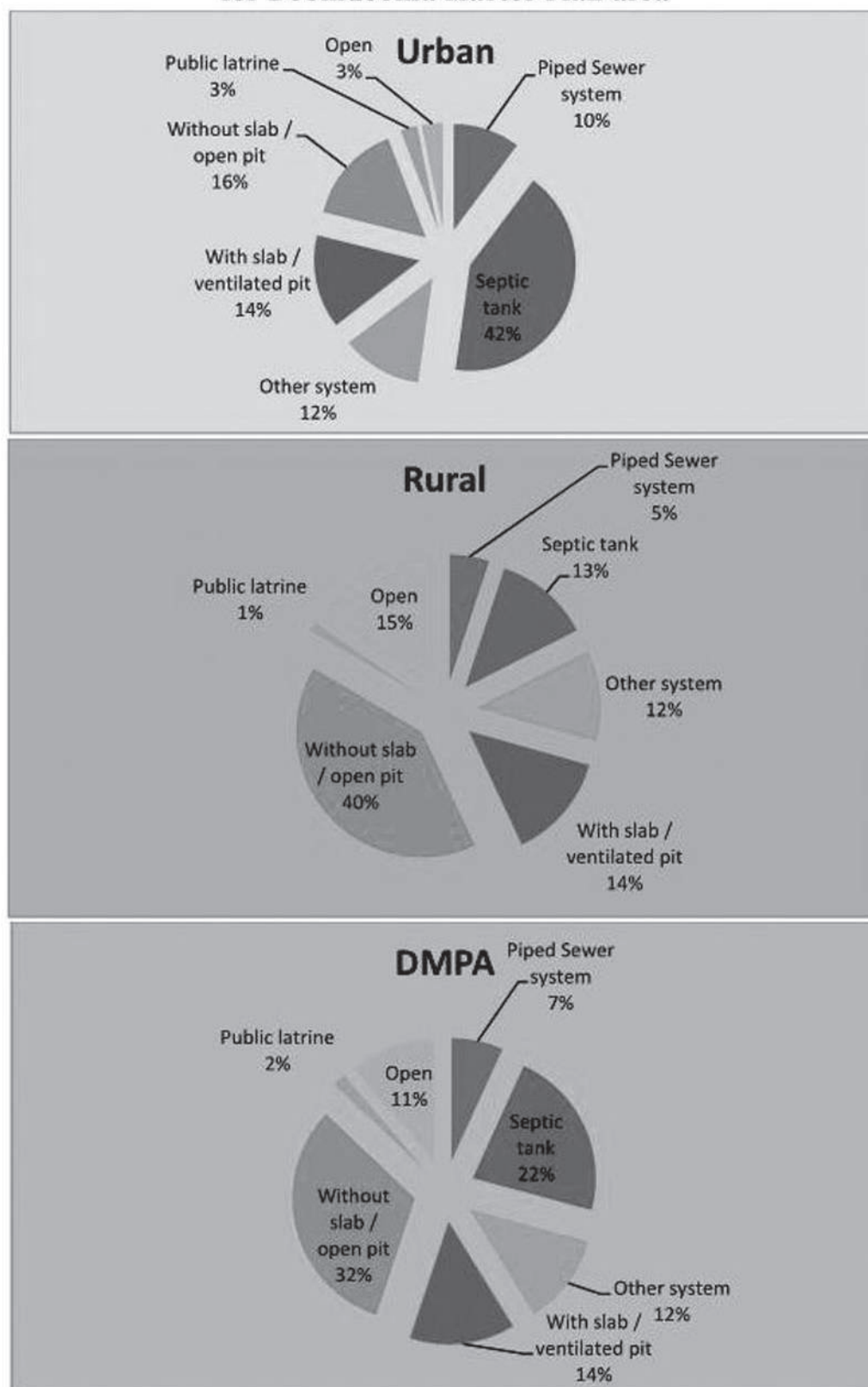
Under SBM, ULB's will ensure that a sufficient number of public toilet to be constructed in the town. All prominent places within the town attracting floating population should be covered. Cares should be taken to ensure that these facilities have adequate provision for man, woman and facilities for the disabled (e.g. ramp provision, Braille signage etc.) wherever necessary.

TABLE NO:-31
Number and % of households by type of latrine
in 2011 for Doomdooma Master Plan area

Type of Latrine		Urban	%	Rural	%	DMPA	%
Flush / Pour latrine	Piped Sewer system	433	10.21	424	5.08	857	6.81
	Septic tank	1781	41.98	1036	12.41	2817	22.38
	Other system	524	12.35	991	11.88	1515	12.04
Pit Latrine	With slab / ventilated pit	607	14.31	1141	13.67	1748	13.89
	Without slab / open pit	653	15.39	3372	40.41	4025	31.97
No latrine without premise	Public latrine	108	2.55	97	1.16	205	1.63
	Open	137	3.23	1284	15.39	1421	11.29
TOTAL		4243	100	8345	100	12588	100

Source:- Census of India 2011

FIGURE -31
Percentage of households by type of latrine in 2011
for Doomdooma Master Plan area



URDPFI Guidelines for Public Toilets

The general standard for public toilets in public area and modified norms for public toilets in public places and roads recommended in URDPFI guideline are given below:-

TABLE NO:-32
NORMS FOR PUBLIC TOILETS IN PUBLIC AREA.

TYPE	NORMS FOR TOILETS
Public toilets	On road and for open areas every 1 Km. including parks, open air theater, car parks and fuel station. Toilets shall be disabled friendly and in 50 : 50 ratio (M / F)
Signage	Signboards on main streets shall given directions and mention the distance to reach the nearest public convenience of visitors. Helpline number shall be pasted on all toilets for complaints / queries
Modes	Pay and Use or free in pay and use toilets entry is allowed on payment to the attendant.
Maintenance / Cleaning	The toilets have both men and women attendants. Alternatively automatic cleaning cycle covering flush, toilet bowl, seat, hand wash basin, disinfecting of floor and complete drying after each use can be adopted. Public toilets shall be open 24 hrs.

The urban local body can follow the above norms for construction the public toilet and maintenance thereafter.

6.1.5 Sewerage Network

Like the rest of the towns of the state, Doomdooma also does not have sewerage network and treatment plant. Human night soil is generally disposed at conventional septic tanks or low cost sanitary pits. Till the execution of the sewerage scheme, it is recommended to encourage the people to construct sanitary latrines of their own and to cover poor families under Swachh Bharat Mission. The use of service latrine should be banned as per law for the health and hygiene of the community.

6.1.6 Solid Waste Management

Solid Waste Management (SWM) is a process which involves collecting and disposing of solid wastes is unavoidable by products of human activities.

Municipal Solid Waste (MSW) in India which includes garbage, metals, bottle or glass, plastics, paper and fabric have been increasing in recent years because of population increase, rapid urbanisation, technology and improper through-way culture of people. In general, the MSWM is the collection, treatment and disposal of solid waste generated by all categories of Municipal population in an environmentally, friendly and socially satisfactory manner using the available resources most efficiently. Urban bodies are generally responsible for providing the SWM services and nearly all local government laws give exclusive mandate of collecting all the wastes disposed outside homes or establishments. Effective solid waste collection and disposal is a vital component of public service provisions and should take priority particularly in emerging towns. Because, failing to have such services can result in many unfavourable outcomes in the long run and this may have serious adverse effect on public health and the environment.

The generation of solid waste has become an increasing environmental and public health problem in every urban area of India. The most urban areas of India rapid urbanisation and population growth has produced tremendous amounts of solid and liquid wastes that degrade the environment and destroy the resources. In the past, most policies and frameworks governing solid waste management in India have been directed at the service providers and less attention has been paid to the demand side aspect of the problem. As such, in present environmentally safe and ethical solid waste management system in Doomdooma town and its adjoining areas must be justified. Doomdooma town is growing very rapidly in recent years. Unplanned growth and development of the town in recent years and environmentally unsafe disposal of urban solid waste by residents of some parts of the town over the last two decades have been a major cause of the life threatens health hazards in the town. Doomdooma Municipal Board with an area of 4.3 Sq. Km. generates a sizeable amount of waste daily. Thus, under such circumstances it is very essential for environmentally safe and hygienic solid waste management system in the town in order to explore the possibility of community participation for a better Municipal Solid Waste Management System (MSWMS).

The present dumping site of Doomdooma town is located at the roadside of Doomdooma-Philobari road in the heart of Doomdooma town.



Present dumping site of Doomdooma town

Since the town generates a good amount of biodegradable solid waste besides plastic waste and malted wastes, so this plan has suggested to shift the present dumping site to the low-lying area of Badlabheta Tea Estate at the south-

eastern boundary of Doomdooma master plan area in Philobari road and a scientific solid waste management and treatment plant for maintaining safety and hygiene.



Further, a few steps for scientific solid waste management system in master plan area includes segregation of bio-degradable and non-biodegradable solid waste at source, construction of compact pits at all residential houses in order to produce compost wherever feasible, introduction of specific litter bins for collection of segregated bio-biodegradable and non-biodegradable solid waste for soil conditioning and recycling purpose respectively, and doing away with the system of dust bins along roads which is a major cause of pollution.

The duties and responsibilities of ULB's as per revised Solid Waste Management rules of 2016 are given below:

- (i) The ULB's shall prepare a Solid Waste Management plan as per state policy within six (6) months.
- (ii) Arrange for door to door collection of segregated solid waste; integrate rag pickers/informal waste collectors in solid waste management.

- (iii) Frame bye-laws incorporating the provisions of these rules within one year, prescribed user fee.
- (iv) Direct waste generators not to litter and to segregate the waste at source and handover does aggregated waste to authorized waste pickers, the waste collector authorized by the ULB.
- (v) Set up material recovery facilities or secondary storage facilities and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste.
- (vi) Established waste deposition centre for domestic hazardous waste and ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the state pollution control board.
- (vii) Direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and hand over to the waste collectors or agency authorized by ULB.
- (viii) Provide training on solid waste management to waste pickers and waste collectors.
- (ix) Promote setting up of decentralized compost plant or bio – meth nation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions.
- (x) Collect separately waste from sweeping of streets, lanes and by-lanes daily or on alternate days or twice a week depending on the density of population, commercial activity and local situation.
- (xi) Involve communities in waste management and promotion of home composting, bio – gas generation, decentralized processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facilities.
- (xii) Educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility.
- (xiii) Ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, rain coats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the work force.
- (xiv) Create public awareness on solid waste management.

6.1.7 Electrical Sub –Station and Major Transformers

Power requirement of Doomdoooma master plan area is meeting by the ASEB grid. In 2011, there are 3513 electric connections i.e. almost 82.80 % in urban area and 4049 electric connections i.e. almost 48.52% in rural area. In the master plan area as a whole there are 7562 electric connections i.e. almost 60.07% in the year 2011. Since the projected population of Doomdoooma master plan will be 144700 (approx), as such consumptions will be increasing at a fast rate due to increase of population as well as modernization of home appliances, it is necessary for the APDCL to make necessary arrangement of power supply to fulfil the consumption demand of the people.



Electric sub-station of Doomdoooma

6.2 Social Infrastructure

6.2.1 Education facilities

The progress and development of a place is closely related to expansion, development and modernization of education facilities. The educational atmosphere in Doomdoooma is comparatively good. For school level education, high quality educational institution like Donbosco School, St. Mary's School, St. Francis School, JawaharNavodaya, Hunlal School, etc., for college level education Doomdoooma College, Learner Junior College, Donbosco Junior College, etc. provides educational facilities not only to the students of Doomdoooma but also the students to its adjoining areas as well as nearby towns. Beside these school, there are so many L.P and High Schools, and many other private play house school providing school education in Doomdoooma.



Doomdooma College established in the year 1967 is a government provincialised college affiliated to Dibrugarh University. The college is a multi faculty college with Arts, Commerce and Science streams. The college offers honours programme in Assamese, English, Economics, Education, History, Pol. Science, Commerce, Physics, Chemistry, Mathematics, Botany and Zoology. The college presently has an enrollment of 2813 students. Besides the various normal courses, the College also offers various Skill Enhancement Course like Desk Top Publishing & Photoshop, National Service Scheme, Vermi-Compost, Travel & Tourism Management, Entrepreneurship Development, Creative writing to the undergraduate students. The infrastructure of the college is quite satisfactory with more than 100000 sq. ft. built up area in a Myadi land of approximately 60 bighas.

During the decade 1970 to 1980 an English medium school was started in the church campus premises of Doomdooma was known as Don Bosco School which developed as a full- fledged higher secondary school later on.



St. Mary's School, Doomdooma



Kendriya Vidyalaya, Doomdooma

TABLE No-33
List of Educational Institutions in Doomdooma master plan area
LP Schools

1. DoomdoomaBang iya LP	9. Fatikjan T.E. LP	16. Bissakupi T.E. LP	23. Ouguri LP
2. MoniramDewan LP	10. Bishakup iSanti Nagar LP	17. FatikjanGaon LP	24. Daimukhiya New line LP
3. RamthakurVidya pith	11. 2 No. Athengia LP	18. Athengia LP	25. Hahsara 6 No. line LP
4. Doomdooma Hindi LP	12. Badlabhe ta T.E. Pachim LP	19. MankhowaTapoba n LP	26. Daimukhiya T.E. LP
5. SishuVidyamandi r	13. Badlabhe ta T.E. Pub LP	20. Mankhowa T.E. LP	27. Hahsara Church line LP
6. BapujiAdarsha	14. Sakreting T.E. LP	21. Badlabheta Hindi LP	28. Hahsara T.E. LP
7. DoomdoomaBala k	15. Hahsara 18 No. line LP	22. BadlabhetaAppeja y	29. Hahsara 10 No. line LP
8. DoomdoomaSaras watiBalika			
ME Schools			
(a) ShishuVidyaMan dir ME	(b) Doomdoom a Hindi ME	(c) BisakupiFatikjan ME	
High School & Higher Secondary			
(i) Doomdooma Girls	(ii) Hunlal HS	(iii) KendriyaVidyal aya	(iv) DoomdoomaB angiya
(v) DoomdoomaAdars haVidyapith	(vi) Ram Mohan Pathsal a	(vii) Adarsha Hindi	(viii) SankardevaSis huNiketan
(ix) Dr. Rajendra Prasad	(x) Twinkl ing Star	(xi) SishuVidyaman dir	(xii) Lotus Academy
(xiii) Jawahar Hindi	(xiv) Learner 's HS	(xv) JawaharNavod ayVidyalaya	(xvi) Donbosco HS
(xvii) St. Francis			
College			
1) Doomdooma College	2) Doomdoo ma Junior College	3) Donbosco Junior College	4) Learner's Junior College

Source:-<http://schools.org/assam>

URDPFI Guideline for Education facilities**TABLE NO-34****NORMS FOR PRE-PRIMARY NURSERY SCHOOL TO HIGHER EDUCATION**

Sl. No.	Category	Student Strength	Population served per unit	Area Requirement	Other Controls
1	Pre-Primary Nursery School	-	2500	0.08 Ha	To be located near park
2	Primary School (Class I to V)	500	5000	Area per School = 0.40 Hec. A) School building area = 0.20 Hec. B) Play field area = 0.20 Hec.	Play field area with a minimum of 18 m X 36 m to be ensured on effective play.
3	Senior Secondary School (VI to XII)	1000	7500	Area per School = 1.80 Hec. A) School building area = 0.60 Hec. B) Play field area = 1.00 Hec. C) Parking area = 0.20 Hec.	Play field area with a minimum of 68 m X 126 m to be ensured on effective play.
4	Integrated School without hostel facility (Class I to XII)	1500	90000 To 1 Lakh	Area per School = 3.50 Hec. A) School building area = 0.70 Hec. B) Play field area = 2.50 Hec. C) Parking area = 0.30 Hec.	To be located near a sport facility
5	Integrated School with hostel facility (Class I to XII)	1500	90000 to 1 Lakh	Area per School = 3.90 Hec. A) School building area = 0.70 Hec. B) Play field area = 2.50 Hec. C) Parking area = 0.30 Hec. D) Residential area = 0.40 Hec.	To be located near a sport facility
6	School for Physically Challenged	400	45000	Area per School = 0.70 Hec. A) School building area = 0.20Hec. B) Play field area = 0.30 Hec. C) Parking area = 0.20 Hec.	To be located near park or sport facilities
7	College	1000 To 1500	1.25 Lakhs	Area per School = 5.00 Hec. A) School building area = 1.80 Hec. B) Play field area = 2.50 Hec. C) Parking area = 0.30 Hec. D) Residential area = 0.30 Hec.	

From the survey it has been found that most of the educational institutions except Donbosco School, St. Mary's School, Hunlal Higher Secondary School, Girl's High School and Doomdooma College the area of the educational institutions is not sufficient as per **URDPFI** guidelines and there are no adequate play fields and parking facilities.

So, this plan suggest to take measures by the education department as well as private institution to increase the area of primary school up to 0.40 Hectare including playfield area, for Higher & Higher Secondary School up to 1.80 Hectare including playfield and parking area and for the intermediate school up to 3.50 hectare including playfield, parking facility and hostel facility as per URDPFI guideline.

This plan also suggest for the provision for school for physically challenged child / person's in an area of about 0.70 hectare for the enrolment capacity of 400 with adequate playfield and parking facility by the education department or by any NGO associated with social upliftment of the region.

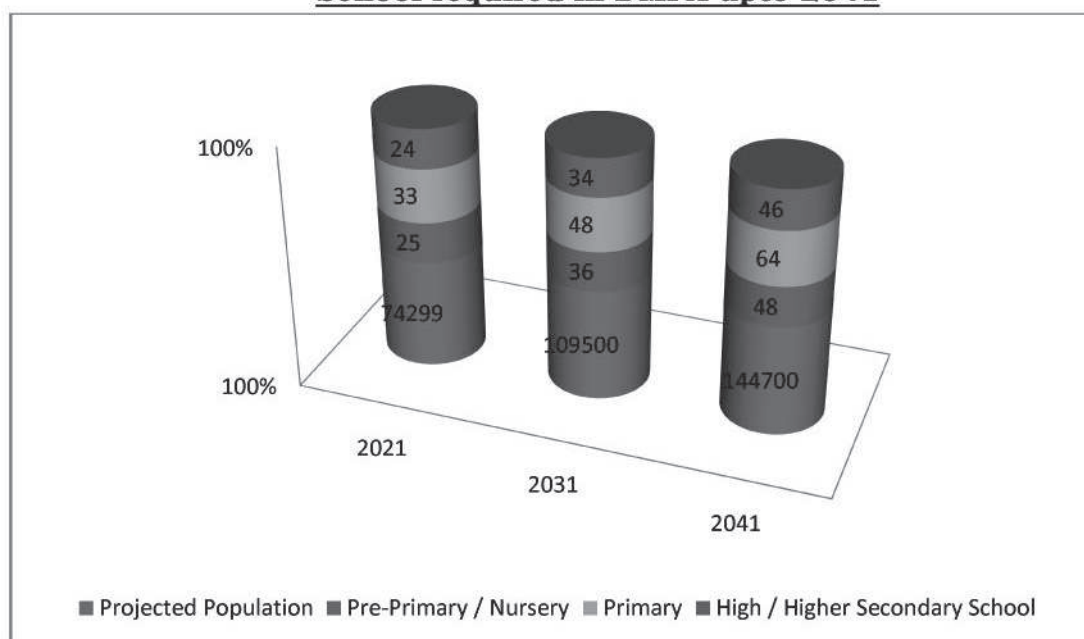
The following table shows the students strength and requirement of schools in Doomdooma Master Plan Area during 2021-2041.

TABLE NO-35
School required in DMPA upto 2041

YEAR	PROJECTED POPULATION	Pre-primary /Nursery Student strength-	Requirement of Pre-primary /Nursery Schools (120 students per school)	Primary Student strength-	Requirement of Primary Schools (250 students per school)	High/Higher Secondary School/ College Student strength-	Requirement of High/Higher Secondary School/ College (700 students per school)
2021	74299	2972	25	8173	33	16346	24
2031	109500	4380	36	12045	48	24090	34
2041	144700	5788	48	15917	64	31834	46

Source:-Calculated by T&CP, Dibrugarh

FIGURE :-32
School required in DMPA upto 2041



Source: Estimated by Town & Country Planning, Assam, Dibrugarh

The shortage of schools in the plan area, to some extent has been fulfilled by the private institutions at present and it is also hope that in the future, private institutions will play an important role to mitigate the shortage of primary schools as well as High and Higher Secondary schools.

6.2.2 Health Care facilities

Hospitals and healthcare services in the town of Doomdoooma and its adjacent areas is satisfactory to some extent due to the existence to several tea garden hospitals. There are 1 Civil Hospital, 1 ESIC dispensary, 1 FRC hospital and 3 Primary Health Sub-Centre in Doomdoooma Master Plan area. There are also 6 nos. of private nursing homes in the town and its adjoining villages that attend to the needs of the society. Most of the nursing homes have limited treatment facilities needed to support the people of the town and its adjoining village areas. Serious category patients generally rush to Assam Medical College, Dibrugarh situated at a distance of 74 Km from Doomdoooma for better treatment.



Doomdooma Civil Hospital



ESIC dispensary Doomdooma



Doomdooma FRU Hospital



Doomdooma Polyclinic & Nursing Home



Mankhowa Tea Estate Hospital

TABLE No-36
List of Health facilities in Doomdooa Master Plan area

Sl.No.	Name of Health facilities
1	Doomdooa Civil Hospital
2	Doomdooa FRU (First Referral Unit)
3	Doomdooa ESIC
4	Bisakupi Tea Estate Hospital
5	Sokreting Tea Estate Hospital
6	Mankhowa Tea Estate Hospital
7	Longsowal Central Hospital
8	Badlabheta Tea Estate Hospital
9	Doomdooa Polyclinic & Nursing Home
10	Dr. Bora's Nursing Home & Maternity Home
11	Dr. Ojha's Nursing Home
12	Sarmah Nursing Home
13	Reliance Nursing Home

Source:-Data collected by T&CP, Dibrugarh

URDPFI Guideline for Health Care Facilities

In the health care facilities the size of a hospital depends upon the hospital bed requirement, which in turns is a function of the size of the population it serves. As per URDPFI guideline the calculation of number of beds is based on:-

A) Annual rate of admission as 1 per 50 population

B) Average length of stay in a hospital as 5 days.

Since the projected population for Digboi master plan upto the Year 2041 is 94,194, as such, the number of beds required for the said population is :-

- i) No. of beds days per year = $(94,194 \times 1/50) \times 5 = 9419$
- ii) No. of beds required with 100% Occupancy = $9419 / 365 = 26$

The classification of healthcare facilities as URDPFI guideline is given in the following table:-

TABLE NO:-37
HEALTH CARE FACILITIES

Sl. No.	Category	No. of Beds	Population served per	Area Requirement
1	Dispensary	-	15000	0.08 to 0.12 Ha
2	Nursing home, Child Welfare & Maternity	25 to 30 beds	45000 to 1.00 Lakhs	0.20 to 0.30 Ha
3	Polyclinic	Some observation bed	1.00 Lakhs	0.20 to 0.30 Ha
4	Intermediate Hospital	200 Initially the provision may be for 100 beds including maternity beds	1.00 Lakhs	Total Area = 3.7 Ha. i) Area for hospital = 2.70 Ha. ii) Area for Residential Accommodation = 1.00 Ha.
5	Family Welfare Centre	As per requirement	50,000	Total Area = 500 Sq.m to 800 Sq.m
6	Diagnostic Centre	As per requirement	50,000	Total Area = 500 Sq.m to 800 Sq.m
7	Rehabilitation Centre	-	-	As per requirement

This plan suggest to take appropriate measures by the health department for the provision of 10 nos. of dispensaries at various location within the master plan area covering an area of 0.08 – 0.12 hectare per dispensary serving at least 15,000 person's. This plan also asked the health department to upgrade the existing civil hospital with sufficient number of beds all modern healthcare equipment for serving at least1(One) Lakh population and asked the authority concern to increase the hospital area for the hospital building as well as the area for residential accommodation of the hospital staff. This plan also suggest to set-up a family welfare center to serve at least 50000 person's by the health department and also a Re-habilitation center by the Govt. or by any NGO for the upliftment of deprived class of the community.

6.2.3 Parks and Recreation Spaces

The recreational facilities available in Doomdoooma is not satisfactory. There is only 1 field i.e. Doomdoooma Stadium Field which provides the recreational facilities to the people of the town. Some educational institutions and tea gardens have their own fields for recreational activities viz. Doomdoooma College Field, Doomdoooma Girls Field, Donbosco Field, St. Mary's Field, Hahsara T.E. staff field, Doomdoooma Golf Course at Raidang Tea Estate adjacent to the master plan boundary. Presently in Doomdoooma, there is no Indoor games sports facilities and parks. As per information received from the concerned Authority initiatives have

been taken for construction of Indoor Stadium and Swimming Pool at Doomdooma Stadium Field.

In Doomdooma Master Plan Area the existing land use for recreational purposes is only 27 hectares i.e. 0.5% of the master plan area or 1.71% of the total developed area. In this plan the proposed Land use for recreation purposes increase to 83 hectares i.e. 1.52% of the master plan area or 3.54% of the total developed area keeping in mind the increase of population up to the year 2041. The land utilization rate for recreation purposes will be 1.74 hectare per 1(one) thousand population in the Master Plan Area.



Doomdooma Town Field/ Stadium



Doomdooma Girls School Field



Doomdooma College Field



Doomdooma Donbosco School Field



*Doomdooma Golf Course adjacent
to master plan boundary*



Hahsara T. E. Staff Field

CHAPTER - 7**7. ENVIRONMENT, TOURISM AND CITY BEAUTIFICATION PLAN****7 Description of eco-friendly areas –**

There are many eco-friendly/heritage sites in Doomdooma which became the pride of Doomdooma.

7.2 Plan/Measures for protection and conservation of environmentally-friendly zones.

Being environmental friendly simply means having a lifestyle that is better for the environment. It's all about taking small steps towards mother earth so as to make this planet a better place for our communities and generations to come. A good way would be to start with conserving water, driving less, walking more, consuming less energy, buying recycled products, eating locally grown vegetables, joining environmental groups to combat air pollution, producing less waste, planting more trees and many more. The more that we do on our part the faster we will create an environment of living that promotes sustainability.

In the environmentally friendly zone, there is more than just a good recycling programme in place. People of the town who are committed to conservation and preservation of resources should encourage options like community play grounds, public transportation, green construction and work to change the way that fossil fuels and other resources are used to support community services.

This plan suggests following proposals for protection and conservation of environmental friendly zones-

- (i) People of Doomdooma urban area should join hand with environmental groups to protect the town and make the environment clean and green.
- (ii) Reduce, reuse, recycle waste hierarchy is the order of priority of actions to be taken to reduce the amount of waste generated and to improve overall waste management processes and programs.
- (iii) Plantation habit should be grown up among the people. For this necessary awareness camp should be organized by competent authority for conservation of natural resources and composting system.
- (iv) Steps should be taken by the authority to stop people from littering on roads. Instead, educate them to put trash and garbage in dustbins. The pile of garbage on road hampers the beauty of the city and also pollutes the air.

- (v) Steps should be taken by the concerned authority to reduce the emitted hazardous chemical and gases in industrial activities.



Plantation habit



Reduce, reuse, recycle waste

7.3 City Beautification Plan/ Proposals-

To improve town's appearance and aesthetic view, neighbour hoods often try to update what is known as streetscape, which pertains to the area between the driving lanes and the edge of the private property. Partly this is a popular strategy because it is public space and it's easy for the government to dictate what will happen there. In truth, streetscape can be quite effective in uniting block faces or a series of blocks that are discordant in some way, because streetscape often includes plantings, the effect is to soften the view created by streets and hopefully sidewalks. Care in the choice of materials and in the quality of the installation makes all the difference in this form of beautification.

In addition to streetscape, sometimes we need a focal point. This might be public art and open air theatre, fountains, a clock tower or grouping of tall grasses. If we already have a lonely statue or old historical building with nothing around it, maybe we should add planting beds of considerable size, an inviting bench or two, and may be an interpretive sign explaining the rest of the store". A tree planting project, either on a vacant plot, in a park, or in the parkway between the side walk and the street is great for improving Towns appearance over the course of a few years at a relatively low cost. Voluntary schemes should be taken up by



neighbourhood basis for cleaning up the park of the town. Project should also be taken up for cleaning the river or stream.

7.4 Roadside Plantation-

The main object of road side plantation is to provide protection to road, traffic, check soil erosion, food, fuel, fodder and timber to the society and mitigate climate change issues. Plantation is durable assets that produce fruits and raw-materials for agro based industry, and also generate livelihood after 7 to 10 years.

This plan suggest the social forestry department to prepare project on road side plantation with details of road to be covered , length of road and species of plants to be planned with numbers of plants for entire Doomdooma master plan area.

Plantation of fruit bearing plants, suitable to local agro-climatic condition should be done in every area of the master plan. The authority concern should take steps for organizing camp and awareness program for road side plantation and educate the people about the benefits of road side plantation including its impact on city's landscape.



7.5 Urban Agriculture and Urban forestry.

Urban Agriculture is the new culture that is catching up in emerging cities. Since the population growth rate is very high, natural resource to feed the increasing population in coming days is going to be a difficult task. So, urban agriculture is seen as a big solution to the problem.

Urban forestry is the careful care and management of tree in urban settings for the purpose of improving the urban environment. Urban forestry advocates the role of trees as a critical part of the urban infrastructure. Urban forest function is thus often oriented toward human outcomes, Such as shade, beauty and privacy. Urban forests bring many environmental and economic benefits to town. Among these are energy benefits in the form of reduced air

conditioning, reduced heating by shading buildings, homes and roads, absorbing sunlight, reducing ultraviolet light, cooling the air and reducing wind speed.

So, urban forestry scheme should be taken by competent authority for afforesting degraded forest land in the Doomdooma master plan area. This type of scheme will act against climate change by creating a carbon sink and against air pollution in the town. This plan also suggests for starting tree surveys in the town which can be conducted by NGO and college or school students. A plan should be framed to create small nurseries in Govt. school as well as in private institution where there is extra space.



7.6 Public Rain Water Harvesting Scheme

Rainwater harvesting is a process involving collection and storage of rain water that runs off natural or man-made catchment areas, e.g. roof top, Compounds, rock surface or hill slopes or artificial repaired impervious/semi-pervious land surface.

Due to deforestation and the consequent ecological imbalance, the ground water level is going down day by day. The constant rising demand of water supply especially from the urban areas does not match with the surface water sources, as a result of which the water reserves beneath the ground level are over exploited.



This consequently results in the water level depletion.

Water harvesting apart from recharging the ground water level, increases the availability of water at a given place at a given point of time. It also reduces the power consumption. It further reduces the run off which chokes the storm water drains, artificial flooding, chances of soil erosion and improves the quality of water. The plan suggests rain water harvesting scheme to be implemented by a competent authority. Moreover, the urbanization trend reduces the infiltration rate of rain water into the sub-soil thereby reduces ground water recharging.

7.6.1 Development of Parks and Recreation Spaces-

The Plan recommends 83 hectares of land for recreational purposes. The plan envisages a Town hall to meet the social and cultural needs of the town and also recommends modernizing the existing play ground with adequate infrastructure. The plan also proposes an indoor stadium and a swimming pool at Doomdooma Stadium, a children park near Circle Office and small size children park at each neighbourhood area and in composite zones.

URDPFI Guideline for Parks and Recreation Spaces

The provision of socio- cultural facilities shall correspond to the changing urban demography and work life style.

TABLE NO-38
NORMS FOR SOCIO- CULTURAL FACILITIES

Sl.No.	Category	Population Served per unit	Land Area Requirement (Sq.m)
1	Aganwadi- Housing area / Cluster	5000	200-300
2	Community Room	5000	750
3	Community hall / Marriage hall/ Library	15000	2000
4	Music, dance and drama centre	1 Lakh	1000

TABLE NO-39
Norms For Recreational Facilities

Sl.No.	Category	Population Served per unit	Area Requirement (Ha)
1	Housing Area Park	5000	0.50
2	Neighbourhood Park	15000	1.00
3	Community Park	1 Lakh	5.00

TABLE NO-40
Norms for Sports Facilities

Sl.No.	Category	Population Served per unit	Area Requirement (Sq. M)
1	Residential unit play Area	5000	5000
2	Neighbourhood Play Area	15000	1.5
3	Town sports centre	1 Lakh	8.00

7.7 Beautification of Major Transit Zone

Doomdooma has emerged as a major transit zone for tea, and fruits like orange. Tea of Doomdooma transit to all over India. So, it is very much essential to beautify and upgrade the major traffic points like bus stand, railway station, market area of this emerging transit zone of upper Assam.

7.8 Road Signage and Street Furniture

Road signs are signs erected at the side of or above roads to give instruction or provide information to road users. The earliest signs were simple wooden or some milestones. But in course of time, many states of India have been adopting pictorial signs or otherwise simplified and standardized their signs to overcome language barriers and enhance traffic safety, such pictorial signs use symbols in place of words.

Street furniture is a collective term for objects and pieces of equipment installed on streets and roads for various purposes. It included Benches, traffic barriers ,bollards post boxes phone boxes, street lamps, traffic lights, traffic signs, bus stops, taxi stand, public lavatories fountains, public sculptures and waste receptacles an important consideration in the design of street furniture is how it affects road safety.

In Doomdooma Master Plan Area existing road signs and furniture are inadequate for increasing traffic and those are not also scientifically designed.

So, the plan suggests to authority concern to take steps for the installation of warning, priority, prohibitory, mandatory, information, facilities, service, direction, position and indication signs in the roads of Doomdooma town, so that local people as well as outsiders can be benefitted and road safety can be maintained.

In Doomdooma master plan area presently there is no street furniture necessary for the public. The concern authority should take steps for the construction of public lavatories at important public places and installation of benches in the park and public places, post boxes, bus stop, taxi stand, waste collectors etc.

This plan recommends for preparation and execution of a city beautification plan covering street light, traffic signal etc. that will enhance the beauty of this resource full town.



7.9 Rivers and Urbanization

Historically settlements have grown along the rivers. Most of the towns in India were developed around rivers because they played a major role in

sustaining the town itself. River provides water, support natural processes – like flood prevention and also provide rich bio-diversity which are vital lung spaces for the town. These are extremely vital to the towns as plants for example: have a cooling effect, helping to lower surface and air temperatures by providing shade and releasing moisture into the air. They also manage floods as most of the plant species that grow on river banks absorb a lot of water, reducing flood energy which is a threat to people and buildings. Rivers also help to connect communities create opportunities for recreation and bring people together.

7.9.1 River Centric Planning

The river Doomdooma river flows south - east of Doomdooma master plan area. There is a need for new thinking for 'River towns'. There is need for the residential of these towns to ask "what can we do for the rivers?" Hearing from experiences of Namami Brahmaputra, it is seriously felt that a new river centric thinking in planning for towns situated on the banks of rivers is the need of the hour. The river health needs to be mainstreamed into urban planning process by development of Urban River Management Plans. Towns should be responsible for rejuvenating their rivers. It has to be done not just with the regulatory mindset but also with development and facilitator out look.

7.9.2 Abstract

Most of the towns in Assam are river centric and Doomdooma is not exception of that, which signifies that the interactions between an urban center and its rivers are complex, reciprocal and collaborative. With urbanization and unplanned extraction of resources, it has been observed that the river's morphology has been changed, thus plummeting its capacity to deliver ecosystem services, further adding excess runoff and diffuse pollution loads. On the other hand, river floods can damage the town in return. The floods had major short as well as long term impacts on the lives of people residing in the affected areas.

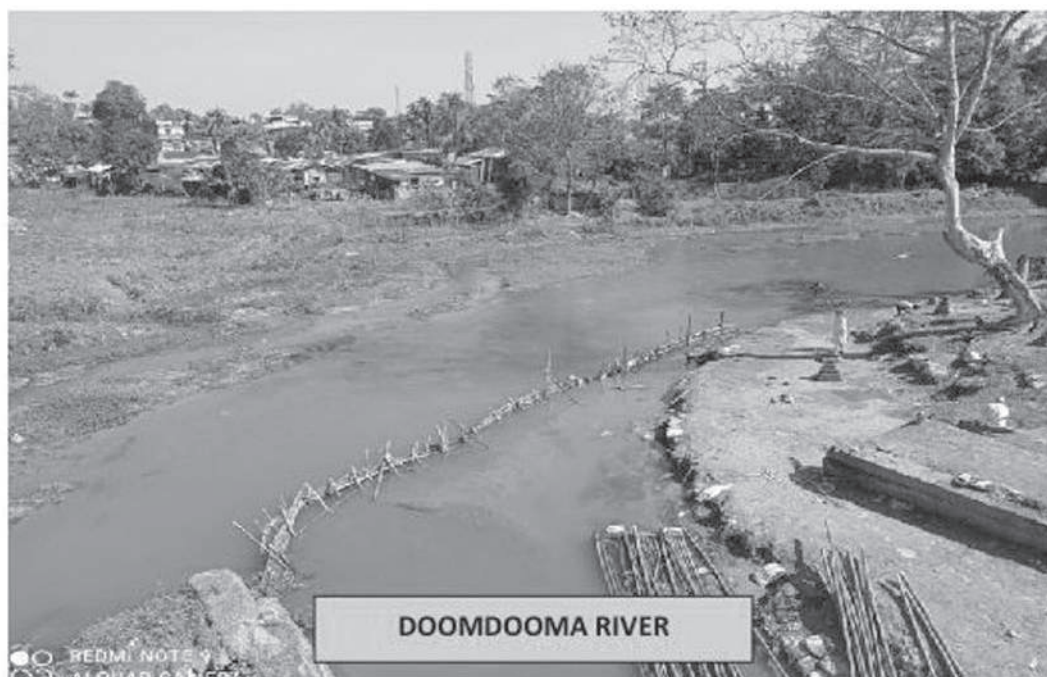
Nevertheless, there are potential aids in both directions. By good management and strict guidelines, a town with its residents can achieve increased land values, acceleration in economic efficiency, recreational aesthetic worth which can increase further environmental sustainability of the town with the development of the river system.

7.10 Introduction

The river Doomdooma passing through Doomdooma town is a lifeline of the town. But due to unprecedented urbanization and household activities,

Doomdoooma urban area have also witnessed construction activities including random and unauthorized residential development which have may degraded the overall natural environment of flood plains of river Doomdoooma.

In some places in the banks of river Doomdoooma erosion is creating a major problem and its changes course frequently and therefore necessary steps to be taken for flood management. Even some place like ward no.1, 8, 9, 10 are flood prone area.



7.10.1 Need for Urban River Zone Conservation and mainstreaming it with Urban Planning.

Due to the pressure of urbanization and population growth in Doomdoooma, the river front areas of Doomdoooma river are getting degraded in terms of effecting water quality, limited access etc. and are often found functioning as open sewers or dumping ground.

Waterfront's have a long history of changing types and levels of uses and are now coming back into potentially thriving and layered public use. As such, the Govt. has taken initiative for river front development to improve the overall riverine environment. Waterfronts can be developed with different functioning and activities like parklands, recreational public place and as a retail or tourist centre. Studies also suggest that mixed use development along the waterfront is ideally suitable and beneficial; both for the community and town authorities as it not only provides wide public access to the riverfront but also contribute in the economic development of the town. As such, this plan suggest for the

development of riverfront of the river Doomdooa by the concerned authority, so that the people of Doomdooa can able to consume the fruit of river Doomdooa.

Presently, water resource department has taken one and half kilometer erosion and flood protection measures on Doomdooa river towards south- west of Doomdooa town.



7.10.2 Objectives and Purposes of River Centric Planning

Broad objectives of River Centric Planning and Urban River Management are :-

1. To highlight the need for River Centric Planning and Urban River Management Plans for the guidance of town authority.
2. To attempt a framework for river water conservation and development of river waterfronts.
3. To recommend suitable planning strategies for river water management and river front development as a part of sustainable urban planning and development to transform the riverfront as a place where people can live, work and utilize and give them back the same riverfront through

improvements in public access and addition of green spaces along river banks bringing out a multi-purpose riverfront.

4. To recommend development regulations / zoning for river front developments.

Sustainable urban planning and development has to take into consideration that river Doomdooa at Doomdooa region requires prioritized attention to ensure that the river is clean, free of any untreated discharge of waste water, erosion free and the flood plains are not only protected from the construction activities but also becomes the hub of recreational activities without compromising the overall natural atmosphere of not only river but of air, sound and wildlife.

7.11 “River Zone” and its Regulating Intent

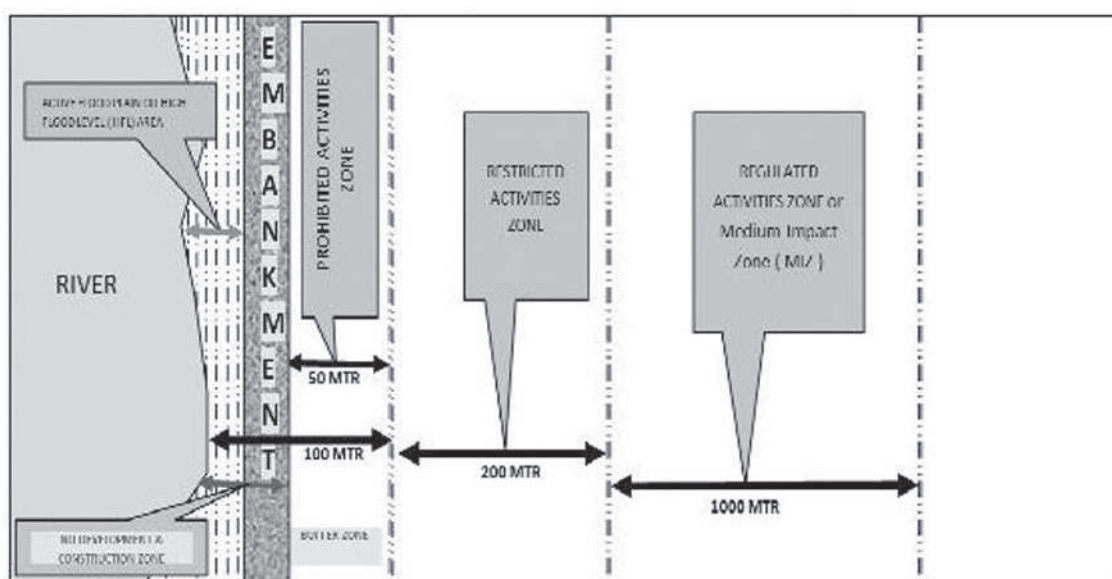
As per River Centric Master Planning and Urban River Management and Planning guidelines of Ministry of Housing & Urban Affairs, Govt. of India : “The concept of flood plain zoning is to regulate land use in the flood plains to –

(a) Restrict damage to land surface and built-up developments caused by floods.

(b) Restrict environmental damages to the river and its abutting ecologically sensitive zones arising out of the land-use occupancies in such zones.”

This plan considers the following river regulation zones of Doomdooa river at Doomdooa depending upon the permission granted to carry out developmental activities.

1. **No development Zone and:** *upto 50 meters from the High Flood Line (HFL) in past 50 years NDCZ (No Development and Construction Zone).*
2. **Prohibited Activities Zone:** *upto 100 meters from the HFL in past 50 years (NDCZ).* This zone is subjected to frequent flooding and most vulnerable with adverse impacts on human activities. In case the presence of embankments in the floodplain area, this zone will extend from the outer side embankment upto 50 m further.
3. **Restricted Activities Zone:** This zone includes the floodplain areas which are less frequently affected by floods and lie further from the river. Its limit extends from the outer limits of prohibited zone upto 200 m further. Few restricted developments are recommended in alignment with activity recommendations as per zoning regulations.
4. **Regulated Activities Zone:** *From outer limit of restricted zone to 1000 m MIZ (Medium Impact Zone).* Certain activities will be permitted in this zone.



(River Zone of Doomdoomariver)

No Development & Construction Zone (NDCZ)	NDCZ will be covered Active Flood Plain or HFL along with embankment.
No Development & Construction Zone (NDCZ) & Prohibited Activities Zone	From outer limit of river bank the NDCZ and Prohibited Activities Zone will be 100 mtr. If know such embankment along the river bank.
Prohibited Activities Zone (PAZ)	50 mtr buffer zone from existing embankment will be comes under Prohibited Activities Zone (PAZ) and the presence of ecologically sensitive and fragile watersheds, heritage sites, endangered species, national parks, biosphere reserves, wildlife sanctuaries etc. included under NDCZ and PAZ.
Restricted Activities Zone (RAZ)	<ul style="list-style-type: none"> ➤ From outer limit of PAZ to 200 mtr. ➤ Area comes under restricted development as per zoning regulation. ➤ Construction of single story building, parks, playground etc. will be permitted after due approval from Water Resource & Pollution Control Board.
Regulated Activities Zone or Medium Impact Zone (MIZ)	<ul style="list-style-type: none"> ➤ From outer limit of MIZ to 1000 mtr. ➤ State Pollution Control Board (SPCB) are required to act as the competent Authority for the implementation of regulations for environmental conservation and preservation, including water bodies, forests and drains, parks, playgrounds, burial and crematoria. ➤ Activities permitted :- traditional grazing, capture fishing, organic farming, discharge of treated domestic waster waters, withdrawal of ground water using hand pump, recreational activities etc. ➤ Activities not permitted :- bundling, dumping of solid waste, construction of new embankment, land reclamation, storage of inflammable and toxic materials, and withdrawing water for commercial purpose other than hydro power and irrigation projects are prohibited.

Source:- River Centric Planning- 2020 & Prop. Zone by T&CP, Dibrugarh

7.11.1 Approach to River Zone planning through Master / Zonal Development Plans

The following points to be considered by the competent authority while planning developments in River Zones:

- i. Proposed development should reduce pollution within the zone and regenerate a healthy environment.
- ii. Any kind of development is to be safe from flooding even at peak flow level.
- iii. The resource requirement be partially mobilized by compatible development of land in the zones without compromising on quality of the environment.
- iv. Identifying the stretches to be developed on priority for being prone to encroachments and do not require large financial resources.
- v. To mitigate the constraints of land for public and semi-public uses in the adjoin areas / zones.

CHAPTER -8**8. LAND USE PLAN****8.1 Developable and Non – Developable Area of the Master plan**

Urban growth and development is often conditioned by the natural landscape like hills, water bodies, forests and manmade impediments like railway line, major roads & canals etc. It is also conditioned by the resources and technology employed in overcoming the impediments and constraints.

Existing Doomdoo master plan is mainly situated in flat land. Except Doomdoo river there is no other physical feature acting as a constraint for development. The soil is very fertile and good vegetation and tea garden is observed in the region.

The quality of urban life and its functional efficiencies are governed by its land-use pattern. In order to understand and analyse systematically the functional relationship between various uses particularly the place of living, business place, industrial activity, education, recreation,

agricultural activity etc., a detail land-use survey was conducted during the year 2020-21 to estimate the present and future need of the urban area as well as master plan area. Doomdoo master plan covers an area of 5446 hectare (54.46 Sq.km), out of which developed area is 1581 hectare (15.81 sq.km.) i.e. 29.03 % of the total plan area and non-developed area is 3865 hectare (38.65 sq.km.) i.e. 70.97 % of the total plan area.



8.2 Existing Land Use

The existing land use and the areas occupied by each use in Doomdooom Master Plan Area is shown in the following table:

TABLE NO-41
EXISTING LAND USE - DOOMDOOMA MASTER PLAN AREA IN 2020-21

Use	Doomdooom Master Plan Area in hectare	Percentage of the Doomdooom Master Plan Area (%)	Percentage of the total developed Area (%)
Residential	885	16.25	55.98
Commercial	48	0.88	3.04
Industrial	39	0.72	2.47
Public & Semi Public	97	1.78	6.14
Recreation	27	0.50	1.71
Circulation	182	3.34	11.51
Railways	10	0.18	0.63
Defence	293	5.38	18.52
Total developed area (A)	1581	29.03	100
Agriculture	1035	19.00	-
Tea Estate	2622	48.15	-
Green Belt / Forest	52	0.95	-
Open Space	80	1.47	-
Water Bodies	72	1.32	-
Govt. land	4	0.07	-
Total Undeveloped Area (B)	3865	70.97	-
Grand Total Plan Area (A+B)	5446 (54.46 Sq.km.)	100	-

Source: - Town & Country Planning, Dibrugarh Land Use Survey 2020-21.

Figure-33
Existing Land Use Distribution in Doomdooa Master Plan

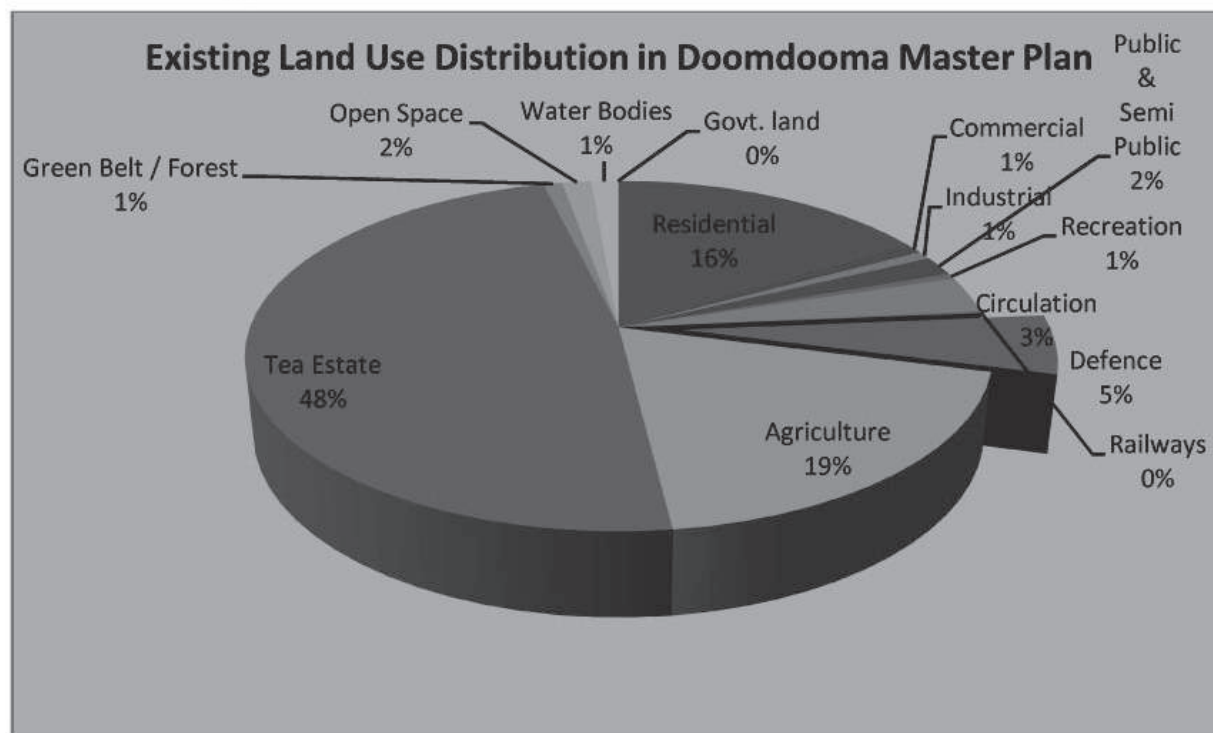
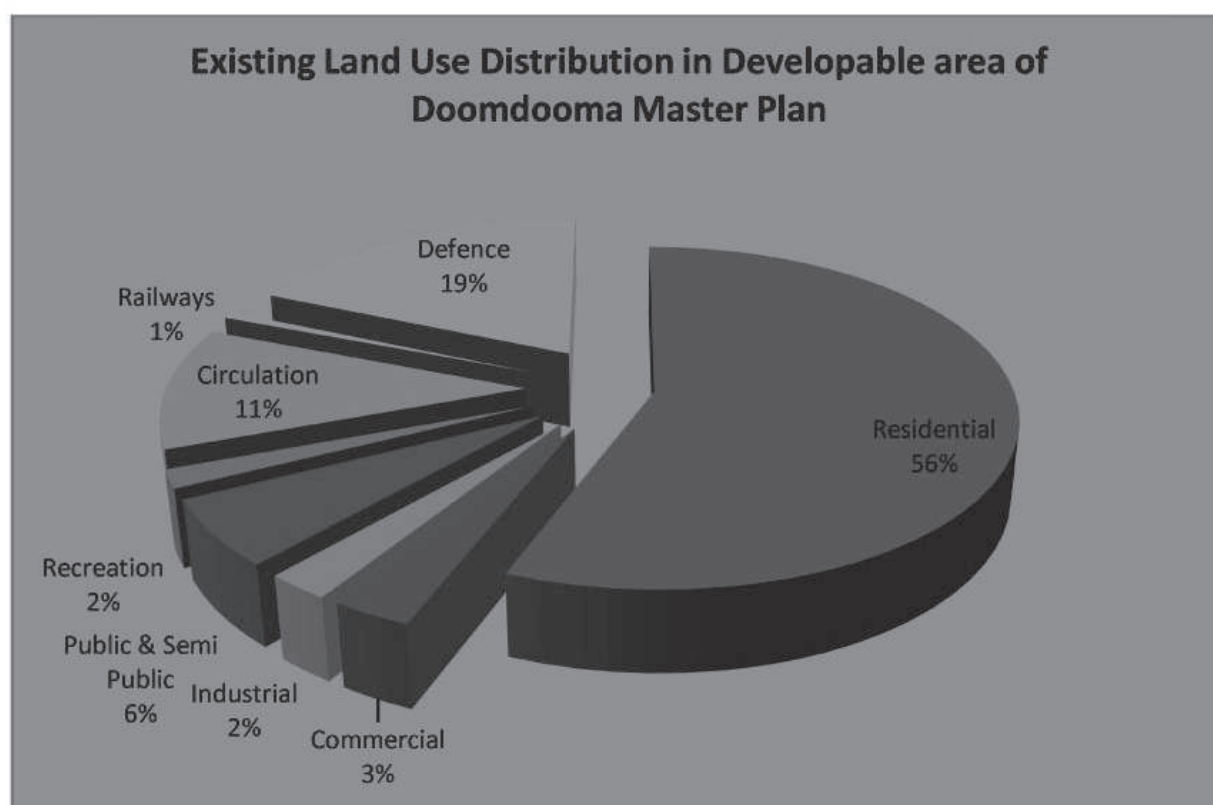


Figure-34
Existing Land Use Distribution in Developable area of Doomdooa Master Plan



In Doomdooma master plan area, 885 hectare of land (16.25% of master plan area and 55.98% of total developed area), is use for residential purposes.

In Doomdooma master plan area, 48 hectare of land (0.88% of master plan area and 3.4% of total developed area) is used for commercial and business purposes. The business area in Doomdooma spread over both side of NH-15 from south to north, and in Nehru road, Azad road, Netaji road, etc. towards Philobari road. Vegetable, grocery and food market located in compact manner at Doomdooma bazar. The roads being narrow, no provision of parking area in market places and on road parking of all types of vehicles including commercial vehicles at Doomdooma Gandhi Chowk creates traffic congestion in the area.

In the master plan area 39 hectare of land (0.72% of master plan area and 2.47% of total developed area) is used as industrial activities.

The land use for Public and Semi-public purposes including educational institutions, government offices, health care etc. are 97 hectare of land (1.78% of master plan area and 6.14% of total developed area). The land uses under this had is scattered all over the master plan area.

In master plan area, 27 hectare of land (0.50% of master plan area and 1.71% of total developed area) is used for recreational purposes. In Doomdooma for outdoor games 1 stadium, 2 playgrounds, besides there are 4 fields for outdoor games of own educational institutions such as Donbosco, St. Mary's, Doomdooma College, Doomdooma Girl's High School field and various other open spaces fulfil the recreational activity of the people of Doomdooma.

Transportation & circulation network of a town or planning area plays an important role and affects immensely the economic and socio cultural life of the planning area. A well-developed road network can provide answer to many problems of urban life. Accordingly in DMPA, the land use for circulation purposes is 182 hectare of land (3.34% of master plan area and 11.51% of total developed area).

Railways occupy only 10 hectare of land (0.18% of master plan area and 0.63% of total developed area). The railway track is passing through the heart of the town.

In DMPA, land use for agricultural purposes is 1035 hectare of land (19% of the master plan area). Agricultural activities mainly takes place in AthengiaGaon, Bisakupigaon, Daimukhiyagaon, Kaliapanigaon, Manuhkhowagaon, Ougurigaon, DoomdoomaPathar and FatikjanGaon.

In the map of India, Doomdooma occupy the place of tea town and this has been proved in the master plan of Doomdooma because tea garden areas occupy 2622 hectare of land (48.15% of master plan area). In the master plan area there are 18 tea gardens and most of them have their own tea factories.

- Green belt/ Forest covers an area of 52 hectare of land (0.95% of the master plan area).
- Open space constitute an area of 80 hectare of land (1.47% of the master plan area). Small size open space area scattered all over the master plan.
- Water bodies constitute an area of 72 hectare of land (1.32% of the master plan).
- Govt. land constitutes an area of 4 hectare of land (0.07% of the master plan area).

8.3 Proposed Land use:

Land use planning has a bearing on the expansion of the town and put pressure on outer growth area and in rural areas. A change in urban economic function changes its population growth. The decision to set up administrative block, commercial activities, industrial estate, educational institution, health care as well as any government policy to stimulate the urban economy accounts for population growth as well as create opportunities for employment and business expansion.

The proposed Doomdooma Master Plan covers an area of 5446 hectare (54.46 sq.km.), out of which about 2346 hectare (43.08%) of land is proposed to be developed up to the year 2041 for a projected population of 144700 persons.



The following table shows the proposed distribution of land use in Doomdooma Master Plan Area up to 2041.

TABLE NO-42
PROPOSED LAND USE - DOOMDOOMA MASTER PLAN AREA UPTO2041

Use	Doomdooma Master Plan Area in hectare	Percentage of the Doomdooma Master Plan Area (%)	Percentage of the total developed Area (%)
Residential	1352	24.83	57.63
Commercial	98	1.80	4.18
Industrial	83	1.52	3.54
Public & Semi Public	156	2.86	6.65
Recreation	83	1.52	3.54
Circulation	271	4.98	11.55
Railways	10	0.18	0.43
Defence	293	5.38	12.49
Total developed area (A)	2346	43.08	100
Agriculture	309	5.67	-
Tea Estate	2622	48.15	-
Green Belt / Forest	52	0.95	-
Open Space	41	0.75	-
Water Bodies	72	1.32	-
Govt. land	4	0.07	-
Total Undeveloped Area(B)	3100	56.92	-
Grand Total Plan Area (A+B)	5446 (54.46 Sq.km.)	100	-

Source: - Town & Country Planning, Dibrugarh Land Use Survey 2020-21.

Figure-35
Proposed Land Use Distribution in Doomdooma Master Plan

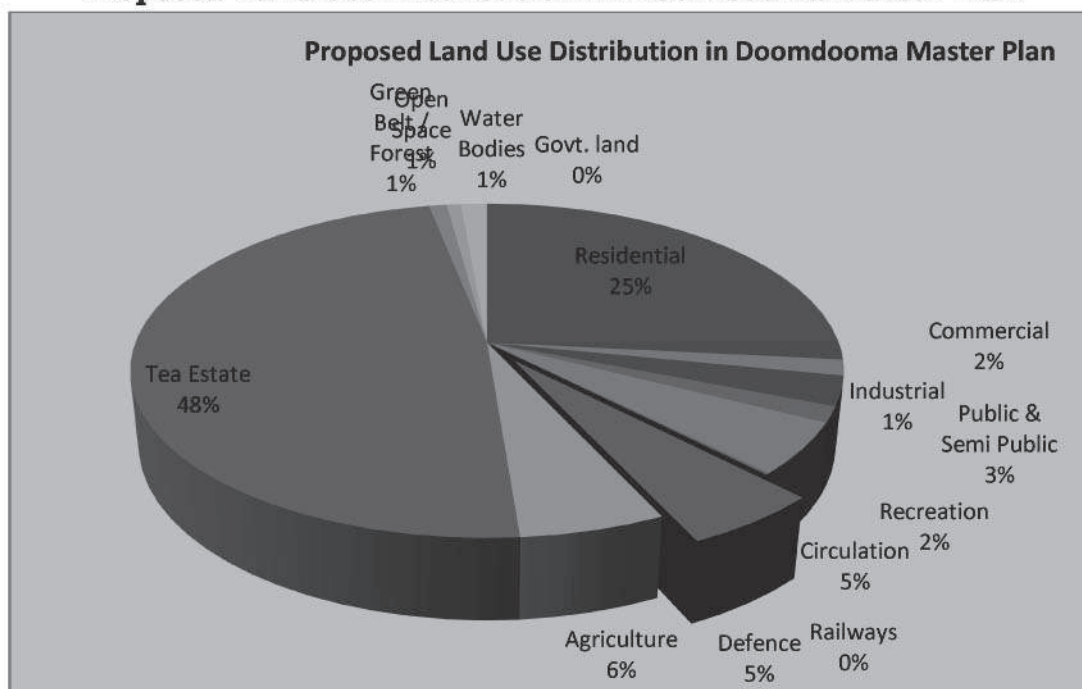
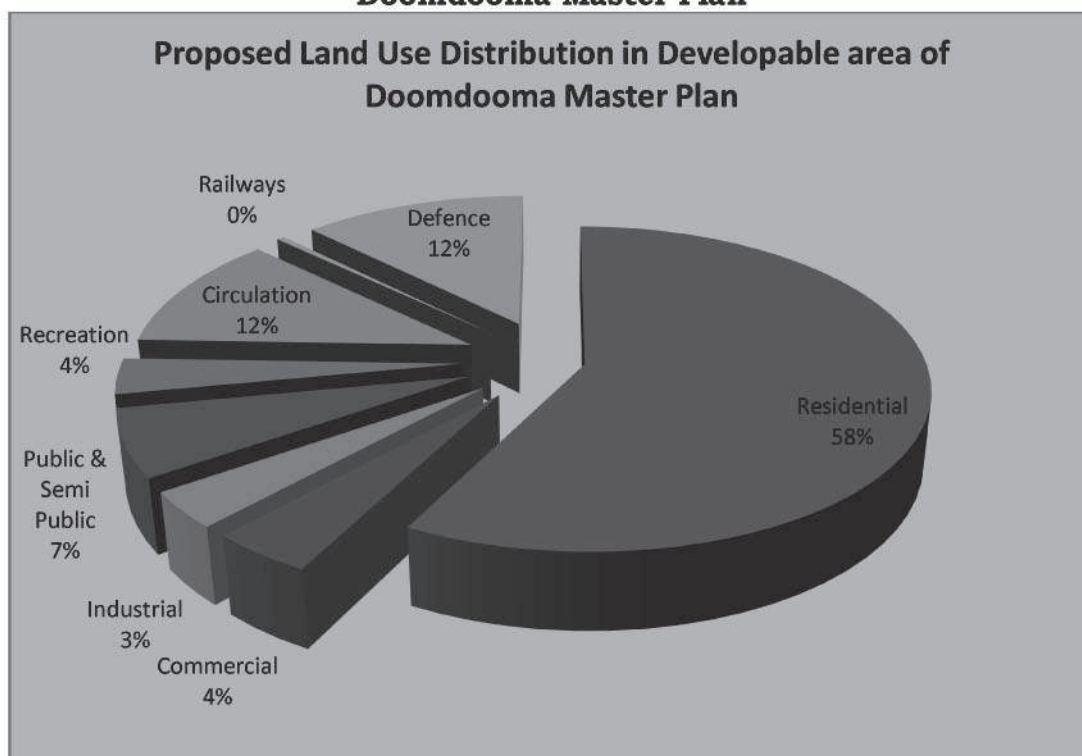


Figure-36
Proposed Land Use Distribution in Developable area of Doomdooma Master Plan



An area of 1352 hectare of land (24.83% of the master plan area and 57.63 of the total developable area) has been earmarked for residential use for projected population of 144700 persons of Doomdooma master plan area and rural areas up to the year 2041. It is presumed that a part of the total projected population will be residing in the mixed used areas. In the proposed land use plan, the population density of the master plan area in the year 2041 will be 26.57 persons per hectare or 2657 persons per sq.km. The residential density of DMP area for the year 2041 will be 24 Dw/per hec. The following gross residential density is recommended in the plan:-

1. Low density : up to 50 persons per hectare
2. Medium density : 50 - 120 person's per hectare
3. High density : 120 - 200 person's per hectare

Land earmarked for commercial activities is 98 hectare of land (1.80% of the master plan area and 4.18% of the total developable area).

Land earmarked for industrial activities is 83 hectare of land (1.52% of the master plan area and 3.54% of the total developable area).

In the plan the land earmarked for Public and Semi-public activities increases to 156 hectare of land (2.86% of the master plan area and 6.65% of the total developable area)for establishing Govt. offices and education institution for the growing population.

In the same way to meet the demand of growing population, the area earmarked for recreation facilities has also been increased to 83 hectare of land (1.52% of the master plan area and 3.54% of the total developable area) for establishing parks and indoor game facilities.

In the proposed land use plan, the land earmarked for circulation is 271 hectare of land (4.98% of the master plan area and 11.55% of the total developable area). In the plan new roads has been proposed to link up the sub-arterial and other road to arterial road. Besides for the efficiency of circulation pattern taxi stand and truck terminus has also been proposed in the plan.

CHAPTER- 9**9. PROPOSED PROJECT, BRIEF AND TENTATIVE FUNDING SOURCE****9.1 Identify Priority Sectors and Project**

The plan proposals for Doomdoomamaster plan area spread up to 2041. It is quite obvious that the natural development will continue and the private developers will play an important role in this respect. As such, the private development is encouraged in conformity with the master plan. It is strongly recommended to stop unplanned and sporadic developments but to encourage balance planned and sustainable development where the provision for necessary physical infrastructure and socio-economic amenities are economically made possible. There are some immediate necessities as pointed out by the various stake holders, which are to be taken up as priority schemes for the master plan area which is listed below:

1. Widening and improvement of roads, with street lights and demarcation of notified parking area.
2. Improvement of existing market situated at Doomdooma into a well-planned, people friendly business hub.
3. Construction of a Tourist lodge and a Marriage hall.
4. Construction of a Town Hall & Old age home.
5. Development of Housing Colony for all sections of the Society considering the scenic beauty of the town.
6. Construction of Slaughter house.
7. Improvement of existing traffic signal points and setting up new ones.
8. Setting up of Organic farming industry.
9. Setting up of Micro Small and Medium Enterprises (MSME).
10. Improvement of existing Bus station.
11. Construction of Vendor and Hawker market.
12. Construction of public bus stand and truck stand.
13. Construction of Auditorium and library.
14. Improvement of existing hospital and dispensaries.
15. Construction of cold storage, ware house etc.
16. Development and Construction of playground, Indoor stadium, parks and swimming pool.
17. System of regular collection and disposal of garbage in the master plan area by the concerned authority.
18. Scheme for Solid waste Management system as per waste management Rule, 2016.
19. Preparation and execution of a comprehensive drainage scheme.
20. Water supply scheme
21. Proposal for fuel filling station and LPG go down.
22. Cycle Track

In the first phase, the schemes like widening and improvement of roads, construction of new roads, provision for required spaces for parks, playgrounds and parking places and improvement of commercial and market areas including existing market, daily bazaar etc. can be taken up. The Doomdooma Municipal

Board has to play an important role visioning with other Govt. agencies in formulation and execution of such schemes in the master plan area. All the above schemes need to be carried out to make the plan area in to healthy place of living.

In addition to the above, the plan also recommends for the establishment of health centre, construction of administrative block for all Govt. offices under one roof.

9.2 Fund Requirement for Each Sector/ Project

Fund requirement for each sector project will be finalized by the ULB & concerned line department after preparation of detailed project report as per Govt. instruction.

9.3 Identify Land Site for Proposal

The plan finds the following sites are suitable for taking up the proposals in accordance with the existing trends of growth as well as for balanced development.

(1) Indoor Stadium& Swimming pool : at Doomdooma Stadium Field



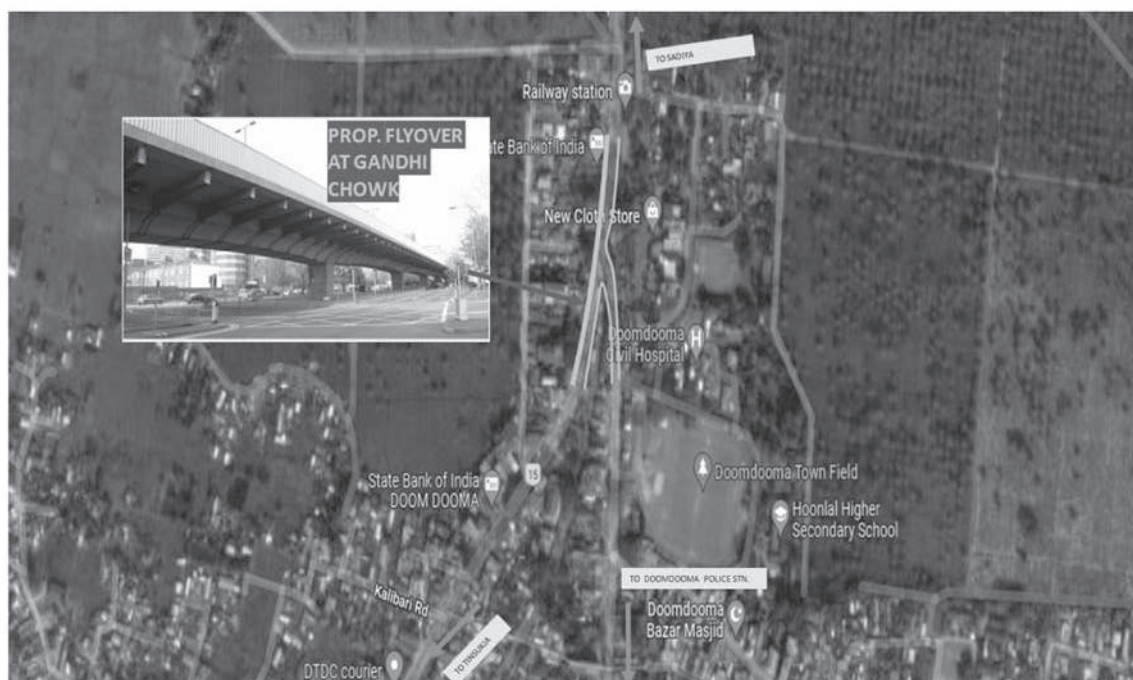
(2) Solid Waste Management System :- at Badlabheta T.E. in Philobari road.



(3) Park : near Doomdoooma Circle Office



(4) Flyover : at junction point of NH-15 and road leading to Doomdoooma market.



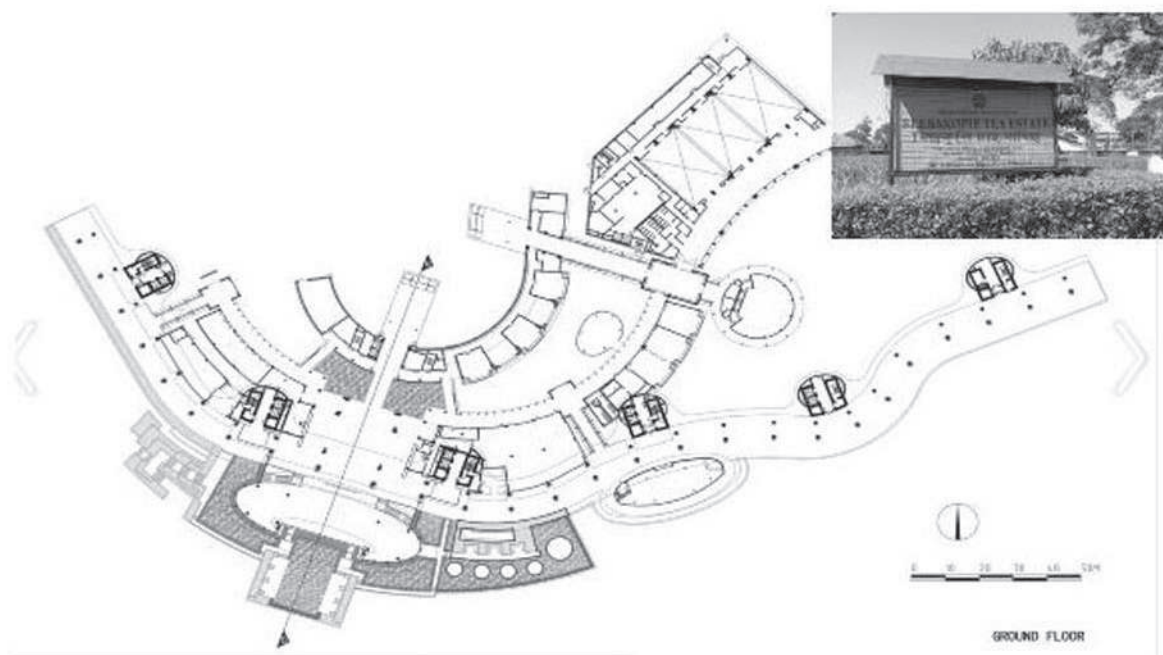
(5) Truck Stand : at Hahsara 15/12 NLR



(6) Cycle track :- at NH-15 from Rupai-Siding to Athengia village



- (7) Tourist lodge :- this plan suggest authority of BesakopieTea Estateto take initiative for construction tourist lodge in their tea estate for promotion of tea tourism and scenic beauty of tea gardens.



- (8) Town Hall :
 (9) Development of Parking area :
 (10) Auditorium and Library
 (11) Old age home
 (12) Water Supply Scheme :
 (13) Marriage Hall

Proposal site of Sl.No 8 to 12 will be finalized after consultation with stakeholders and tea garden authorities

9.4 Indicative Sources of Fund

The ULB & concerned line departments will submit the DPR's to their respective departments for sanctioning fund from State & Central Government under various schemes like NLCPR, NEC, 10% pool fund etc. The ULB's can also adopt the policy of Private Public Partnership (PPP) mode for raising the fund for a few remunerative projects.

CHAPTER- 10**10. DISASTER PLAN****10.1 Hazards Specific Proneness in Doomdoooma:****➤ Earthquake :-**

As per the latest seismic zoning map of India, the Doomdoooma region falls under High Risk Zone- V, where a maximum intensity of IX can be expected.

➤ Flood : -

Even Doomdoooma town is also facing urban flooding in many localities due to lack of proper drainage system.

➤ Soil Erosion : -

The soil erosion is major threat to many areas due to the Doomdoooma river in some parts of the master plan area.

➤ Fires : -

The fire takes places in Doomdoooma due to short circuit in commercial areas, thatched house. Mainly fire takes place from March to April when the climate remains very dry.

➤ Cyclone:-

In Doomdoooma cases related to low density cyclone occurred in some places.

10.2 Need for Disaster Management

Data on disaster occurrence, its effect upon people and its cost to countries, are primary inputs to analyse the temporal and geographical trends in disaster impact. Disaster losses, provide the basis for identifying where, and to what extent, the potentially negative outcomes embedded in the concept of risk is realized. They help to understand where, and to whom, disaster risk becomes impact. They also provide the basis for risk assessment processes, a departing point for the application of disaster reduction measures.

Development cannot be sustainable unless disaster mitigation is built into development process. Investments in mitigation are more cost effective than expenditure on relief and rehabilitation. Prevention and mitigation contribute to lasting improvement in safety and are essential to the integrated disaster management system. Disaster response alone is not sufficient as it yields only temporary results at a very high cost. So, emphasis must be on Disaster prevention, mitigation and preparedness, which help in achieving objectivity of vulnerability reduction.

As per Section 40 of Disaster Management Act, 2005 that every department of the State Government shall prepare a Disaster Management Plan.

10.3 Importance of putting Disaster Management Plans In Place

Disasters are events that have a huge impact on humans and/or the environment. Disasters require Government intervention. They are not always unpredictable. Floods take place in valleys and flood plains, droughts in areas with unstable and low rainfall, and oil spills happen in shipping lanes. This predictability provides opportunities to plan for, prevent and to lessen the impact of disasters.

Disasters arise from both natural and human causes, and the responses needed could stretch community and government capacity to the limit. Disasters are inevitable although we do not always know when and where they will happen. But their worst effects can be partially or completely prevented by preparation, early warning, and swift, decisive responses.

Disaster management aims to reduce the occurrence of disasters and to reduce the impact of those that cannot be prevented. The Government White paper and Act on Disaster Management define the roles of Local Authorities as well as Provincial and National government in disaster management.

North East Region has been vulnerable to many natural and manmade disasters in the past. We can notice that most of the disasters have occurred within the last two decades, and the frequency, intensity and magnitude of the disasters are ever increasing.

10.4 Plan Objectives

The objectives of the Disaster Management Plan are:

- Disaster management in the routine affairs of the office
- To provide technical and humanitarian assistance during disaster
- Prompt and effective discharge of office responsibilities during disaster situations
- Ensuring safety of office infrastructure, human resource and other assets
- Ensuring safety of the beneficiaries and others
- Speedy restoration after disaster impact
- To conduct trainings and capacity building for effective prevention, mitigation and response for disasters.
- To undertake information, education and communication activities to create awareness among the communities and the general public.

10.5 Likely geographical extent and magnitude / severity

- 1) The master plan area is situated on a flat land. Doomdoooma is severely prone to flood. Moreover, some parts of Doomdoooma town is located in very low lying area with poor drainage system with unplanned development, so there are every chances of flash flood due to heavy rainfall. Such flash floods have been experienced during last five years.
- 2) Assam as a whole is within the Zone V of earthquake zone. Especially Doomdoooma has witnessed a devastating earthquake in 1950. So, it can be said that geographically and geologically Doomdoooma is situated in a very hazards prone zone.
- 3) Chances of landslide are comparatively less in this region. But fire can broke out in the congested residential, commercial areas and market of the town anytime during lean season. The region has faced cyclones several times in the past. Road accident, rail accident, etc. can occur at any time. Of course riot is not so common in this region.

10.6 Disaster Management Cycle

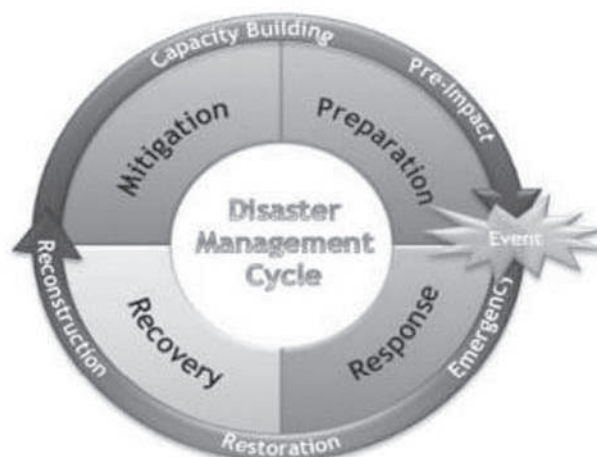
In multi-hazard response plan, the disaster management cycle has a significant role to play. The four stages of disaster cycle have their own importance in terms of their implementation during, after and before the occurrence of any disaster.

Pre disaster activities

1. Policy development and National, State, district, local level disaster organization formation.
2. Vulnerability and capacity assessment.
3. Prevention and mitigation
4. Preparedness, planning and training.

Pre disaster activities

1. Policy development and National, State, district, local level disaster organization formation.
2. Vulnerability and capacity assessment.
3. Prevention and mitigation
4. Preparedness, planning and training.



During Emergency activities

1. Warning (beginning before the actual event)
2. Evacuation, search and rescue
3. Emergency assistance (relief) – food, water, shelter, medical aid

Post disaster activities

1. Repair and restoration of life lines (power, telecommunications, water transportation)
2. Reconstruction and rehabilitation.

10.7 Formation of Doomdooma Disaster Management Cell (DDMC)

So, the Master Plan recommends for formation of a Doomdooma Disaster Management Cell (DDMC) in the office of the Chairman, Doomdooma Municipal Board, as per Section 40 of Disaster Management Act, 2005.

The DDMC has to be constituted with the following functionaries are Chairman/Chairperson of the municipal board as the Chairman of the cell, Vice Chairman of the municipal board as the Co-Chairman of the cell, Chief Executive officer of the municipal board as the Executive Officer and the members are SDO (Civil), Health, Roads, Building, Industries (Refinery), other relevant department and the Assistant/Junior Engineer of the municipal board as Nodal Officer.

The DDMC will give emphasis towards the preparation of Doomdooma Disaster Management Plan. The plan also recommends that the DDMC cell to co-ordinate during emergency with the District Disaster Management Authority (DDMA) located at the Head-Quarter of the District. The DDMC Cell will provide all the available resources and manpower for Disaster Management. This Cell will mobilize the service of technical personnel for the damage survey work to help the District Administration.

The DDMC must meet at least once in six months i.e. in the month of March and September before the Disaster Season (Flood & Cyclone) of Doomdooma town under the chairmanship of the Chairman, Doomdooma Municipal Board & to update the plan. For this one month's prior notice should be given to all concerned departments before convening the meeting. Chairman should review the work of DDMC. An emergency meeting will hold whenever information is received regarding calamity.

10.8 Standard Operation Procedure (SOP)

The Master Plan recommends the DDMC for formulation of Standard Operation Procedure (SOP) for automatic response of the members during disaster.

- Written guideline that precisely defines how operations are to be carried out.
- An organizational directive that establishes a standard course of action.
- Written guidelines that explain what is expected and required of the personnel.
- Standardization of activities :-
 - Identify planned and agreed upon roles & actions.
 - Promotes coordination and communication amongst personnel.
 - Simplify decision making during potentially stressful conditions.

Proper implementation of Assam Notified Urban Area Building Rules – 2014 (ANUABR) & Sensitization among stake holders engaged for construction work / owners to use disaster resistant technologies.

10.9 Rainwater harvesting

Doomdooma Zone has experienced heavy rainfall during summer season due to the south-western monsoon that leads to artificial floods not only in the plan area. So, the plan recommends adoption of rainwater harvesting system in construction activities that will reduce the volume of artificial floods in the master plan area and also help to maintain the ground water level.

10.9.1 Do's & Don'ts during**a) EARTHQUAKE**

b) FIRE



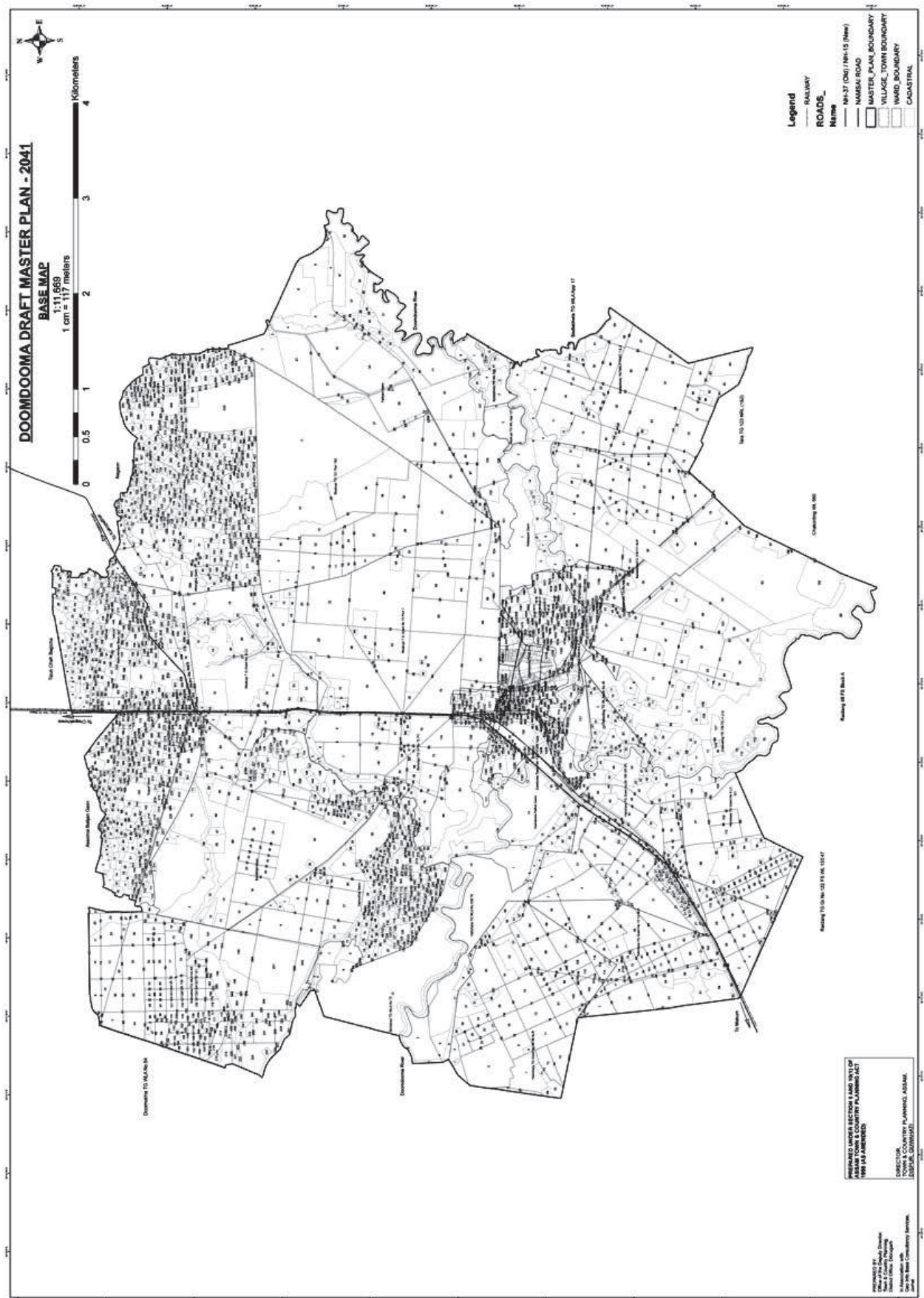
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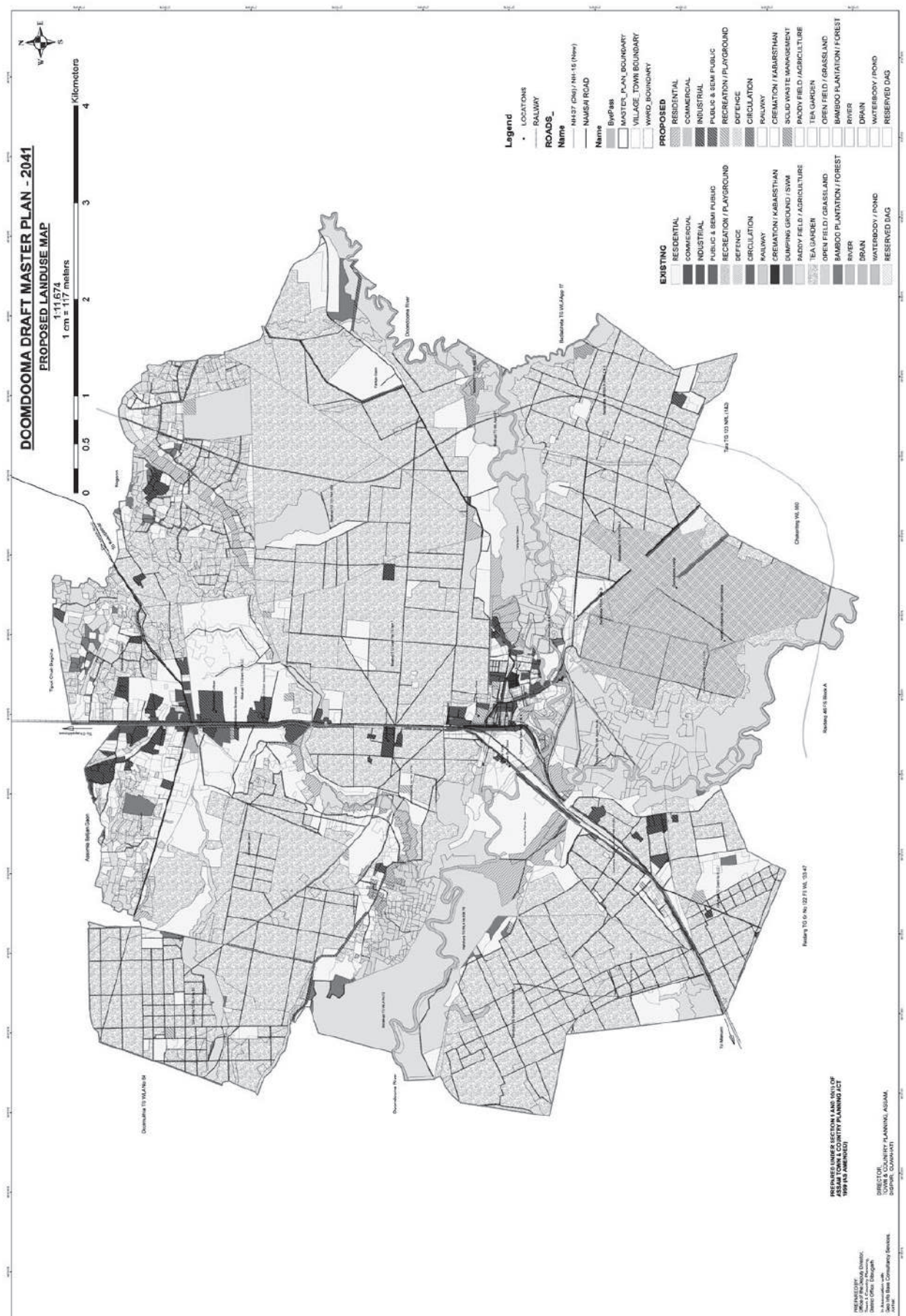
ANNEXURE-I

Table- 43
Actionable points for various line departments

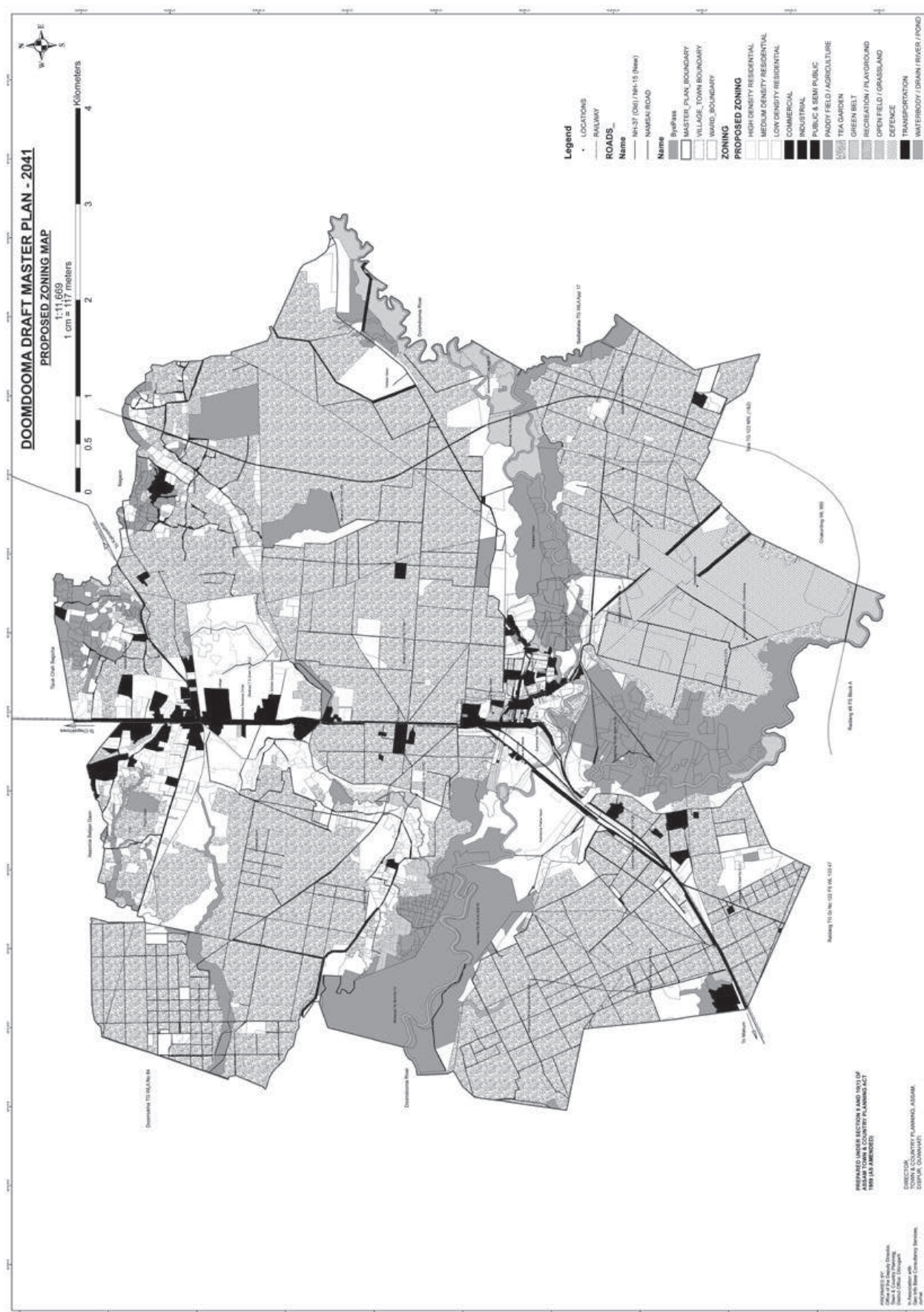
Sl. No.	Name of line Department/Agency/	Proposal	Action to be under taken towards implementing proposal
1	Doomdooma Municipal Board	Affordable Housing Scheme, Solid Waste Management, Construction of vendor & Hawker Market, Construction of Tourist Lodge, Bus Stand & Parking	Line department shall prepare concept paper / DPR whichever is applicable as per directive of the government for consideration of funding under 10% pool fund, NLCPR, NEC, State Finance Commission, CSR Fund of Pvt. Sector etc. in a phased manner during the Master Plan period i.e. up to 2041. A few selected schemes like housing colony can be considered under PPP mode.
2	Public Works Department & Doomdooma Municipal Board	Footpath & cycle Track Road signage in roads and in accident prone area Road Signage & Street Furniture	
3	ASEB & Doomdooma Municipal Board	Improvement of street lighting	
4	Public Administration and Doomdooma Municipal Board	Construction of Auditorium & Library	
5	Public Works Department	Widening of Road	
6	Doomdooma Municipal Board and Town & Country Planning Assam	Development of Drainage system	
7	Doomdooma Municipal Board and Public Health Engineering Department	Improvement of sanitation	
8	PHE Department & Assam Urban Water Supply and Sewerage Board	Water Supply Scheme	
9	Education Department, NGO and Private Agency	Education Facilities	

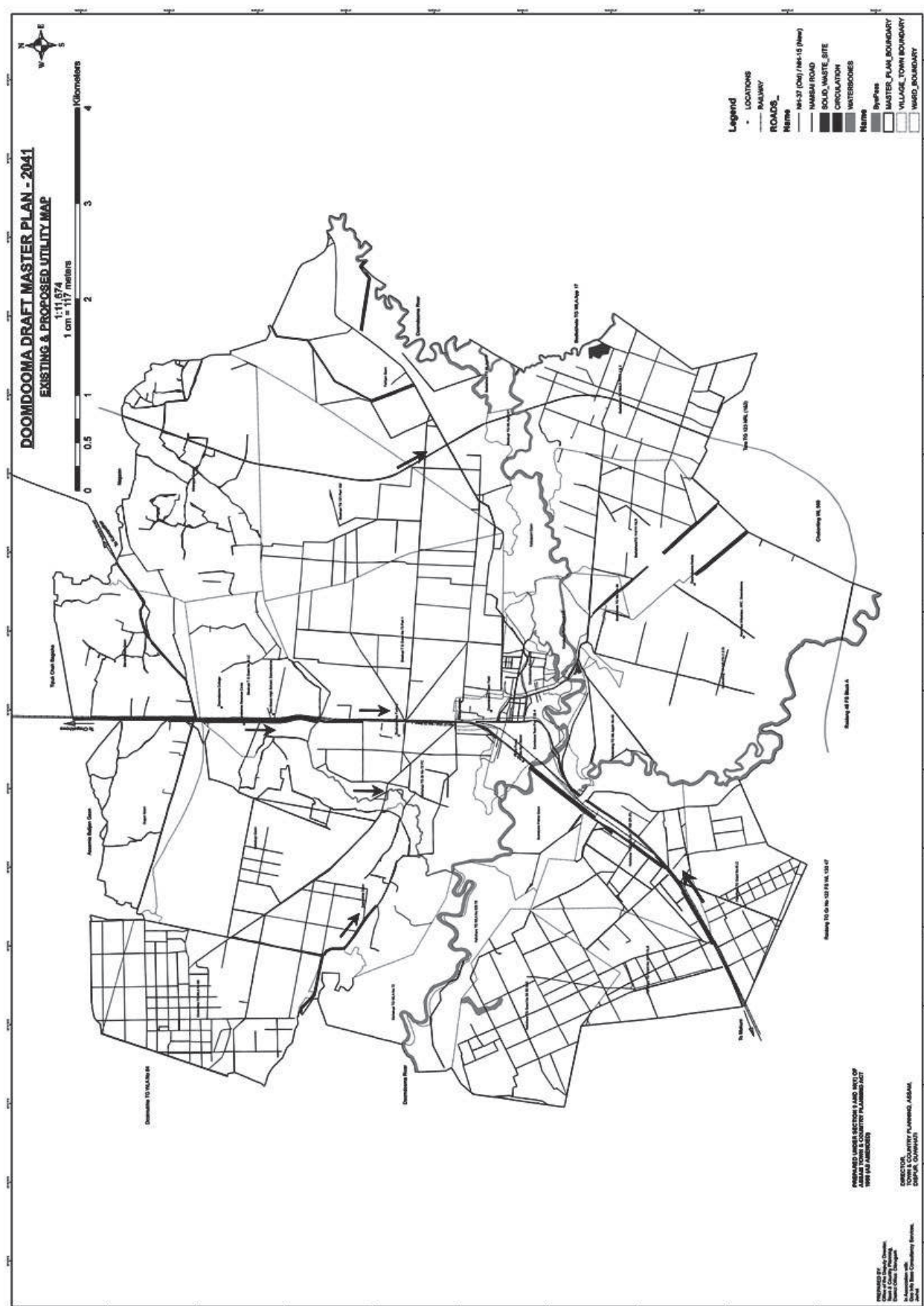
10	Health Department, NGO and Private Agency	Health Care Facilities	
11	Sports & Youth Welfare Department & Sports Association	Development of playground and construction of stadium	
12	Social Forestry, Doomdooma Municipal Board, Public Administration and NGO	Protection & Conservation of environmentally friendly zone	
13	Social Forestry Department	Roadside Plantation & Urban Afforestation	
14	Agriculture Department	Urban Agriculture & Organic Farming	
15	Water Resource Department	River front development	
16	Transport & Railway Department	Transit Zone	











ABBREVIATIONS

ANUABR	Assam Notified Urban Area Building Rules – 2014
AUW&SB	Assam Urban Water & Sewerage Board
A.R & T.C	Assam Railways & Trading Company
DMPA	Doomdooma Master Plan Area
DDMA	District Disaster Management Authority
DPR	Detail Project Report
DDMC	Doomdooma Disaster Management Cell
PPP	Public Private Partnership
SOP	Standard Operational Procedure
SDO	Sub Divisional Officer
URDPFI	Urban and Regional Development Plans Formulation and Implementation
CPHEEO	Central Public Health and Environmental Engineering Organisation